ASSET MAPPING THE NORTH CAROLINA FURNITURE INDUSTRY CLUSTER

PREPARED FOR THE PIEDMONT TRIAD PARTNERSHIP, MARCH 2010

BY

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Dr. Susan M. Walcott is a professor of regional economic development in the Department of Geography at the University of North Carolina at Greensboro. Dr. Walcott's academic interests concern regional economic development based on industrial clusters such as the life science and furniture industry and urban growth coalitions. She has recently published a journal article on the impact of globalization on the North Carolina furniture industry. Regional study areas include the American Midwest, San Diego, Atlanta, China, India and Bhutan. Topics focus on the economic engines of metropolitan growth in major cities. She has published articles in a number of journals including *The Professional Geographer, Urban Geography, Eurasian Geography and Economics, Environment & Planning, Growth & Change, Asian Geographer, Southeastern Geographer, Journal of Cultural Geography,* chapters in eight books, and contract work for the Hudson Institute and the Center for Urban Policy and the Environment in Indianapolis.

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EXECUTIVE SUMMARY

INTRODUCTION AND BACKGROUND

North Carolina features the second largest furniture industry by state in the nation, despite a decline in the state's furniture manufacturing jobs by more than 50% from 2001to 2009 . Previous studies of the North Carolina furniture industry suggested that the state should not give up on this traditional manufacturing strength but instead figure out how to best adapt to new economic realities. A contributing weakness is the tendency of major furniture regions in the state to operate in isolation from each other even though leveraging the various furniture industry clusters can help facilitate a statewide comparative advantage.

PURPOSE AND RATIONALE

The purpose of this report is to elevate the level of awareness of North Carolina's regional furnishings clusters by quantifying its broader geographic reach and overall economic impact. A major goal of this research is to provide a more rigorous asset mapping of the value chain at a broader geographic scale to help to more effectively communicate the economic impact of the region's furnishings cluster both within the region and to state policy leaders, including the Governor and the General Assembly.

Overall, the charge of this report was to answer the following questions:

- What is the **full extent of the geographic reach** of the North Carolina furnishings cluster and what are the **key sub-markets** within the cluster that appear capable of enhancing the competitive advantage of the mega-region's furniture value chain?

- What are the **economic impacts** of the furniture value chain in terms of number of firms, number of jobs, average wages and related multiplier effects?

- What are the **strategic opportunities and best practices** in the furniture cluster based on interviews with furniture executives and related industry leaders?

PROJECT METHODOLOGY

Most of the data to conduct the asset mapping of the furniture value chain was obtained from the North Carolina Employment Security Commission (NCESC) and ReferenceUSA. The furniture value chain was defined based on the North American Industrial Classification System (NAICS) and included the following furniture-based activities: manufacturing, distribution, retail, design, and other services.

In identifying the appropriate NAICS codes that comprise the furniture value chain we borrowed heavily from the American Home Furnishing Alliance (AHFA) furniture industry definition and a Gereffi study (2007). Our furniture value chain definition does not include the raw material suppliers (e.g., wood/forestry, sawmills, cut wood stock, etc.), or producer service providers such as furniture-related photography studios, various trade publications, and specialized furniture expertise in various accounting and law firms since they invariably have inputs into many other industries besides furniture. Additionally, other related furniture activities that are largely episodic are not incorporated in this analysis including the High Point furniture market and related showroom renovations and set-ups, whose impacts have already been analyzed in other related studies.

The NCESC provides employment and wage data based on the NAICS code if disclosure restrictions are met. The Bureau of Economic Analysis (BEA) and Bureau of Labor Statistics (BLS) withholds publication of data when necessary to protect the identity of individual firms when the number of firms in any given county is low – the so-called non-disclosure rule. Consequently, for those North Carolina counties that tended to employ low numbers of furniture workers, or featured a very small number of firms in a particular sector, published data was sometimes not available to protect the confidentiality of the firm.

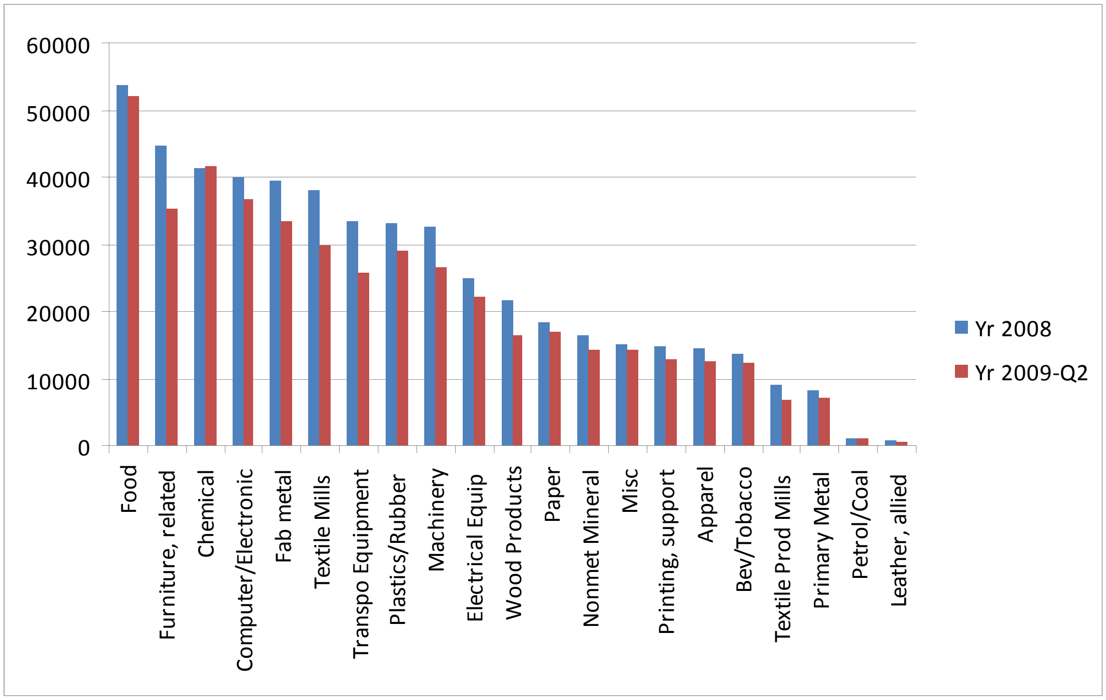
ASSET MAPPING THE NORTH CAROLINA FURNITURE INDUSTRY

In 2008, the North Carolina furniture industry value chain generated a total wage bill of $2,429 million and 76,193 jobs in more than 4,000 establishments, stretching from Murphy to Manteo, and directly affected many aspects of everyday life in North Carolina. Indeed, manufacturing was the number one private sector employer in North Carolina in 2008 and furniture was the second highest sub-sector within manufacturing indicating its importance to the state's economy (Figure 1). By the end of 2007, the last period figures are available, the Gross Domestic Product represented by furniture and related manufacturing in North Carolina totaled $2,722 million.

THE PIEDMONT MEGA-REGION

Although the furniture industry has statewide impact, its geographic footprint is most heavily concentrated in the Piedmont Triad and Unifour regions of central North Carolina. We brand this region the Piedmont mega-region – an area following Interstate 40 from Burke County in the West to Alamance County in the East. The Piedmont mega-region collectively accounted for 42,207 furniture jobs and 1,302 furniture establishments in North Carolina in 2008 – well over one-half (55.4%) of all furniture jobs in the state (Figure 2 and Table 1). The Piedmont Triad and Unifour regions are equivalent job markets (just over 20,000 furniture jobs in each region) although each area has complementary specializations that reflect regional strengths. The Unifour region is dominated by larger upholstered furniture manufacturing factories while the Piedmont

Figure 1. Leading North Carolina Manufacturers by Employment, 2008 – 2009 (2Q)



Source: NC Department of Commerce, 2010

Triad is a more diversified market with strengths in manufacturing, retail, wholesaling and design.

THE CHARLOTTE AND RALEIGH FURNITURE MARKETS

Both Mecklenburg and Wake counties are the fourth and fifth largest furniture job generators in the state but only in regard to more "downstream" furniture-related activities such as retail, wholesaling, and design. Much of this activity is related to the more affluent consumer base and labor market in both counties.

REST OF STATE

Although the Piedmont mega-region and the Charlotte and Raleigh furniture clusters accounted for approximately two-thirds of all jobs in the North Carolina furniture industry, several smaller industry clusters existed outside central North Carolina including Buncombe County (888 jobs), Cumberland County (782 jobs), and New Hanover County (730) (Table 1). Although the aggregate furniture employment in these three counties was just 2,400 jobs – with 80% of these jobs in furniture/home furnishings retail – they remind us that the North Carolina furniture industry plays an important role in generating jobs across the entire state.

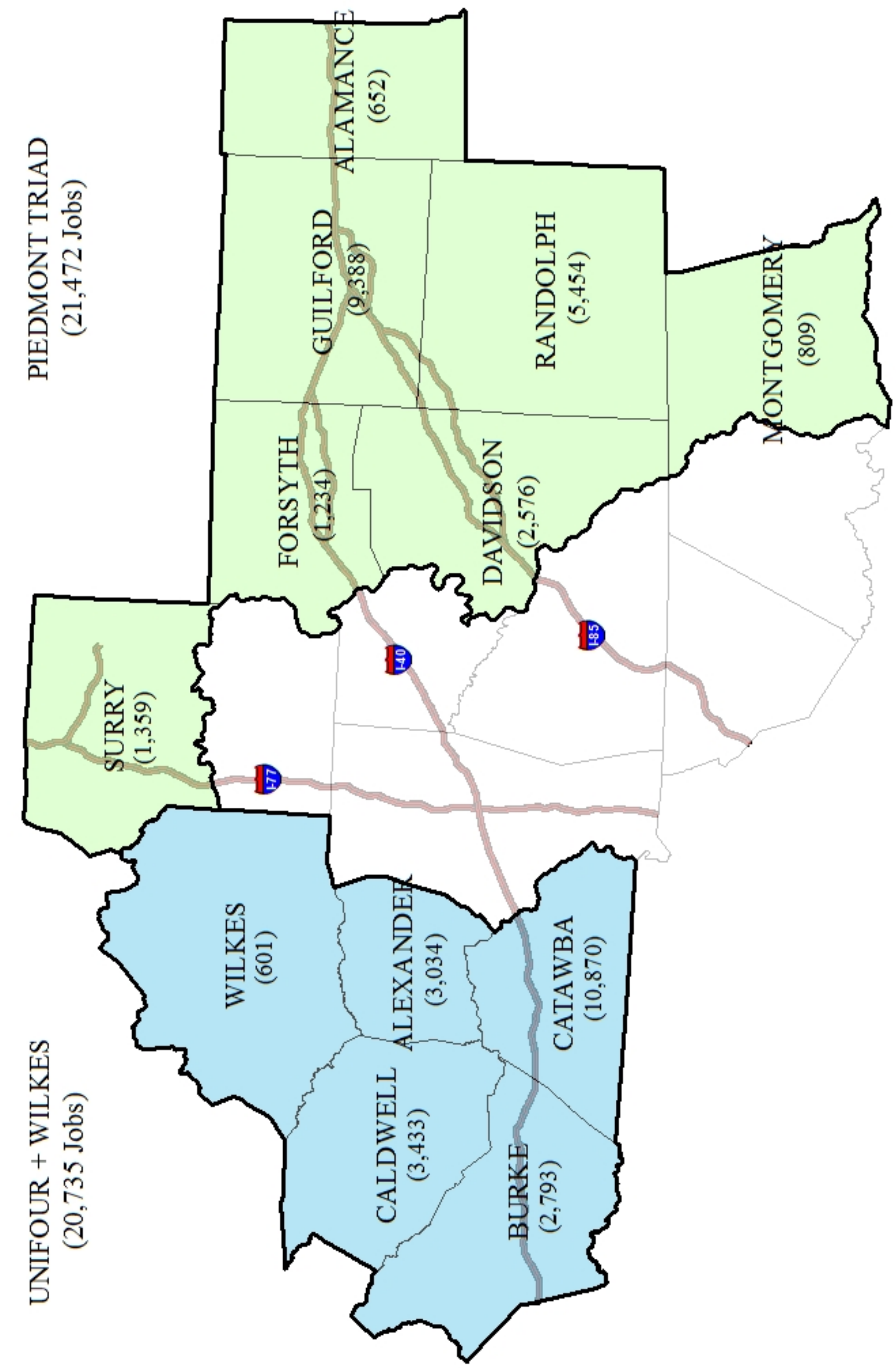


Figure 2. The Piedmont Mega-Region: Total Furniture Value-Chain Employment by County, 2008

Table 1. North Carolina Counties Ranked by Total Employment in the Furniture Industry Value Chain, 2008

County	Employment	Establishments	Avg. Wages	Region
Catawba	10,870	230	31,661	Charlotte
Guilford	9,388	476	39,654	Piedmont Triad
Randolph	5,454	100	28,113	Piedmont Triad
Mecklenburg	4,884	450	34,736	Charlotte
Wake	3,661	378	30,870	Triangle
Caldwell	3,433	68	28,579	West
Alexander	3,034	35	29,304	Charlotte
Burke	2,793	59	35,588	West
Davidson	2,576	116	29,256	Piedmont Triad
Surry	1,359	24	24,215	Piedmont Triad
Forsyth	1,234	118	31,713	Piedmont Triad
Buncombe	888	116	30,348	West
Montgomery	809	18	20,880	Piedmont Triad
Cumberland	782	83	30,531	Southeast
Gaston	775	54	28,677	Charlotte
New Hanover	730	109	27,143	Southeast
Durham	665	79	27,774	Triangle
Richmond	656	11	26,511	Southeast
Alamance	652	47	27,318	Piedmont Triad
Wilkes	601	11	28,091	West

ECONOMIC IMPACT IN THE PIEDMONT MEGA-REGION: RIMS MULTIPLIER EFFECTS

The Regional Industrial Multiplier System (RIMS) developed by the U.S. Bureau of Economic Analysis (BEA) helps to demonstrate how changes in the furniture industry cause region-wide impacts due to changes in furniture employment, earnings and output. Based on the analysis, it appears that the furniture industry in the Piedmont mega-region is well integrated into the overall regional economy of central North Carolina with substantive links encompassing a wide range of suppliers and related industries. For example, the RIMS Direct Effects Earnings multiplier showed that each additional dollar of earnings paid directly to households employed by the furniture manufacturing industry in the Piedmont mega-region will generate an additional $2.32 in the earnings of households employed by all industries. Also, the Direct Effects Employment multiplier showed that each additional job generated in the furniture manufacturing industry will generate an additional 2.14 jobs in all industries.

STRATEGIC OPPORTUNITIES AND BEST PRACTICES IN THE PIEDMONT MEGA-REGION

A series of over 30 interviews and factory visits across both furniture clusters provided grounded insights into the functioning of this industry in North Carolina. Some of the best practice furniture companies in the Piedmont mega-region included: Valdese Weavers in Burke County, Key City in Wilkes County, Hickory Chair and Legacy Furniture Group in Catawba County, as well as Steelcase, The Phillips Collection, and Home Meridian in Guilford County.

Common distinguishing characteristics that could elevate the entire state industry were innovative competitive adaptations such as lean manufacturing processes along with a combination of cutting edge technology, an appreciation for the craftsmanship skills of employees, and a team approach to facing challenges drawing on the range of value chain components present in the state. Sharing knowledge about these companies and their practices, from designers, suppliers, manufacturers, logistics and retailers, could enhance the reputation and performance of North Carolina’s furniture industry.

CONCLUSION AND IMPLICATIONS: THE PIEDMONT MEGA-REGION AND THE STATE OF NORTH CAROLINA FURNITURE INDUSTRY

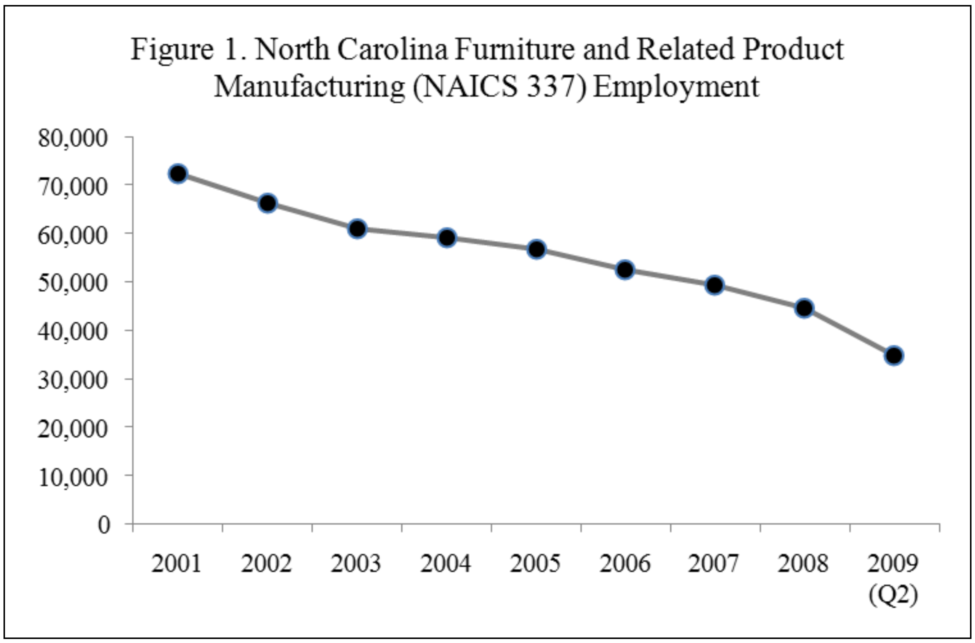
Although the furniture industry in North Carolina has experienced significant turbulence over the past decade, the industry is still a major pillar of manufacturing in North Carolina and remains one of the state’s most important industry clusters. It is disproportionately concentrated in the Piedmont mega-region that straddles the Interstate 40 corridor in central North Carolina. Furthermore, the RIMS multiplier analysis suggested that the Piedmont mega-region is well integrated into the overall regional economy with substantive links to a wide variety of related businesses.

Based on a series of interviews with furniture industry leaders from across the region, we have identified several competitive strategies that may be able to elevate the North Carolina furniture industry. It is clear that better regional cooperation and innovation are the keys to enhanced prosperity in the Piedmont mega-region, particularly regarding the market branding of this furniture mega-region. That said, little evidence exists of coordinated action by either the Triad or Unifour region to elevate the profile of the industry in the General Assembly or the Governor’s Office. An internet-based information exchange center has been touted as a way to fertilize the cross pollination of best practice production methods. Overall, the North Carolina furniture industry remains a key element of the state economy, retaining all the critical components of the value chain – from labor to logistics, production parts and producer services - that could be further enhanced by increasing the flow of information about and support for industry best practices in order to retain and increase North Carolina's competitive edge in an industry with which it is prominently identified as a leader.

INTRODUCTION AND BACKGROUND

A. NORTH CAROLINA'S FURNITURE INDUSTRY: 2001 - 2009

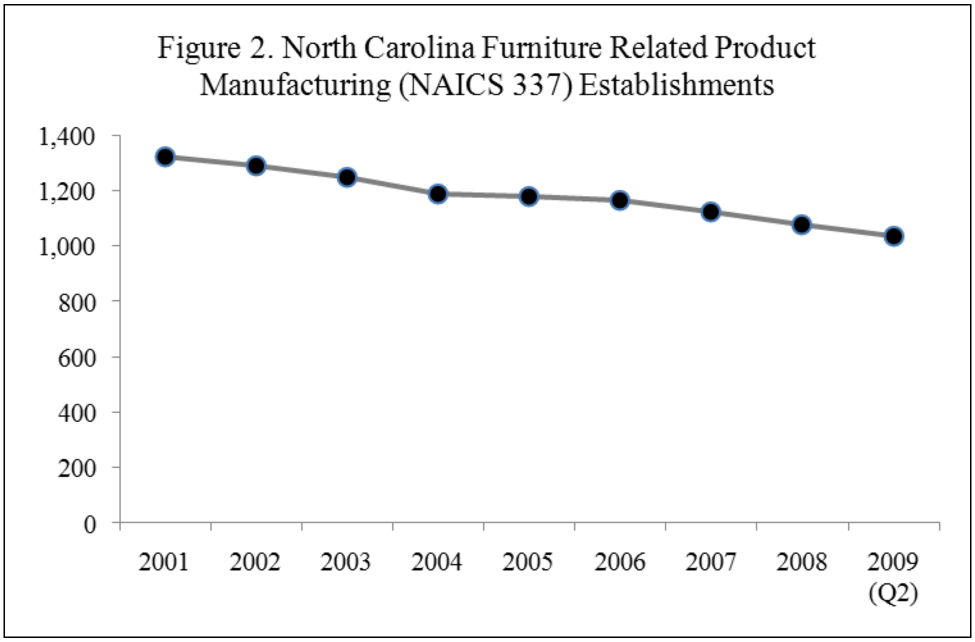
Although the furniture industry in North Carolina has been a major component of the state economy for over a century, the industry experienced substantial changes over the past decade. From 2001 through the second quarter of 2009, the North Carolina furniture and related product manufacturing industry (NAICS 337) lost more than half of its employment base, declining from 72,318 employees in 2001 to 34,325 in 2009 (June) .



Source: U.S. Bureau of Labor Statistics, 2010

Global competition and outsourcing led many North Carolina furniture manufacturers to shut down plants and layoff workers in recent years although the decline in the number of furniture establishments was not as precipitous as the decline in jobs (Figure 1 and 2). North Carolina lost around one-quarter of all its furniture manufacturing establishments during the past decade compared to over one-half of all jobs. In 2009 (2Q), North Carolina had 1,034 establishments engaged in furniture manufacturing (NAICS 337) compared to 1,323 establishments in 2001.

The overall implication is that the number of jobs and firms has declined as the furniture industry seeks new ways to maintain a competitive advantage by focusing on "lean manufacturing" methods that allow existing furniture competitors to become higher



Source: U.S. Bureau of Labor Statistics, 2010

Table 1. Top Ten Leading Furniture Manufacturing States by Employment, 2009 June (NAICS 337)

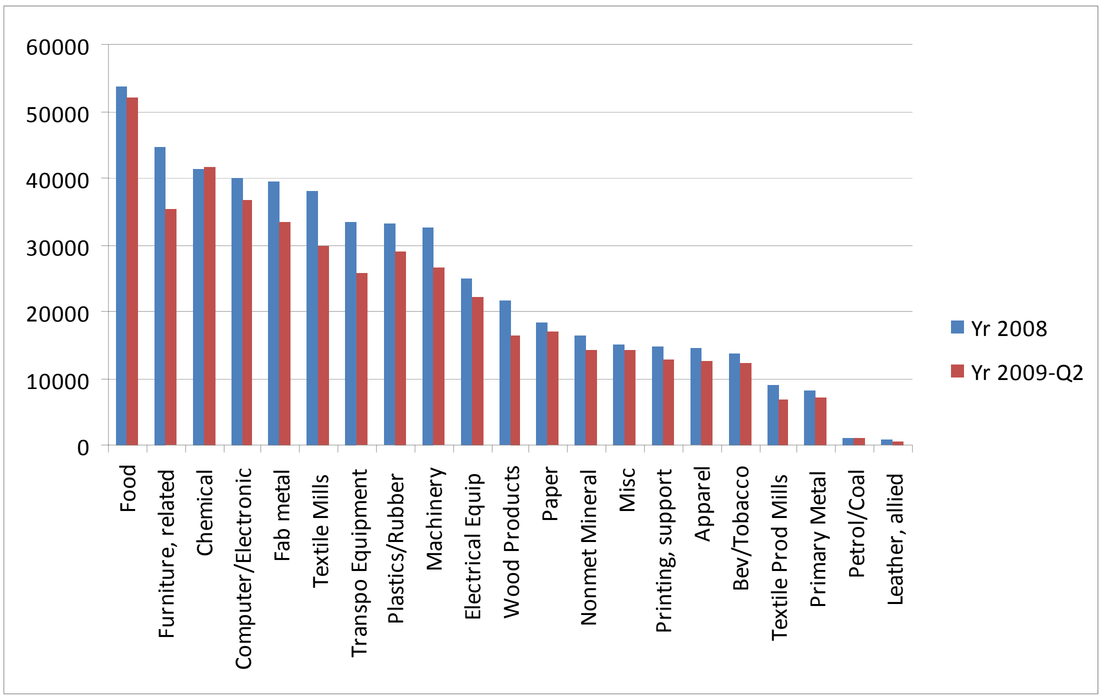
U.S. State	Employment Total	Average Wage ($) 2008
California	34,761	38,287
North Carolina	**34,325**	**31,378**
Texas	24,758	33,628
Michigan	20,003	53,175
Indiana	19,963	33,701
Mississippi	17,480	27,923
Ohio	16,492	37,566
Pennsylvania	16,120	38,907
Wisconsin	15,160	38,473
New York	14,002	40,112
US Total	383,935	36,486

Source: U.S. Bureau of Labor Statistics, 2010

value-added and more nimble. It is also important to remember that the North Carolina furniture industry is still the second largest in the United States behind only California in terms of total employment in 2009 (2Q) (Table 1) and thus worthy of attention. Furthermore, the substantial decline in North Carolina furniture jobs during the 2000's was not unusual. California experienced a comparable decline in furniture jobs from a high of 72,707 in 2001 to a low of 34,761 in Q2 2009.

Despite these significant job losses, furniture in North Carolina remained the fourth largest manufacturing-based employer in the state just behind food, chemical and computer/electronic manufacturing in Q2 2009 (Figure 3)

Figure 3. Leading North Carolina Manufacturers by Employment, 2008 – 2009 (2Q)



Source: NC Dept. of Commerce, 2010

B. PREVIOUS FURNITURE STUDIES

One region of North Carolina that has been directly grappling with these significant changes in the furniture industry is the Piedmont Triad region of central North Carolina. Several recent reports have outlined the economic magnitude of the furniture industry in the region and suggested various strategic imperatives that the region should embrace if the furniture industry is to maintain a sustainable competitive advantage. Key reports that this study analyzed and evaluated include:

- Fox, G.T. *et al.* 2007 *The Economic Impact of the Home Furnishings Industry in the Triad Region of North Carolina*
- Gereffi, G. 2007 *North Carolina in the Global Economy: Furniture*
- Holmes, J. 2008 *A Strategic Report on the Piedmont Triad Furnishings Cluster: Making the Piedmont Triad Region the Capital of the World Furnishings Industry*
- Small Business and Technology Development Center (SBTDC) 2009 *The Piedmont Triad Furnishings Cluster: Business Action Plan*

The Fox *et al.* (2007) report found that the economic impact of the furniture cluster in the Triad region (which was defined as including Davidson, Forsyth, Guilford and Randolph counties) was estimated to be about $8.25 billion in 2006 generating 65,362 jobs especially in furniture manufacturing, wholesale and retail. However, the analysis was largely focused on the High Point area and four related Triad counties and did not account for other furniture industry clusters in other parts of the state.

Gereffi (2007) argued that the furniture industry still maintains a strong presence in North Carolina. Large declines in employment have led to furniture companies seeking new ways to remain competitive by focusing on new lean manufacturing methods that decrease production time and costs, and by developing a renewed emphasis on design and retail. A central theme of Gereffi's research is that North Carolina should not give up on its traditional industries but instead figure out how industries like furniture might best adapt to new economic realities.

The Holmes (2008) report suggested that the Piedmont Triad region had no unified vision for the region's furniture industry nor an authentic brand position. He also argued that large firms have given way to specialty plants that network to create high value-added end products in a timely fashion. A key part of the Holmes (2008 p.10) report was the recommendation to:

> "extend the furnishings cluster's geographic reach beyond High Point and beyond the Piedmont Triad to include the state of North Carolina ... Piedmont Triad furnishings advocates must recognize the growing importance of the ports in the east and the heavy concentration of upholstery manufacturing in the Hickory/Lenoir area …

Although many parties have consistently encouraged regional cooperation among geographic and political jurisdictions as a prerequisite of any regional growth strategy, Holmes (2008) suggested that these efforts have been hampered by self-interest and insular thinking. According to Holmes (2008), one of the negative outcomes for the furniture industry is it has tended to be under-represented in recent promotional films produced by the North Carolina Department of Commerce. "The lack of General Assembly and gubernatorial support for the furnishings industry suggests that the state of North Carolina is willing to surrender its international best-in-class position in the furnishings industry to a domestic or international competitor" (Holmes 2008 p.22).

Finally, the SBTDC (2009 p.15) Business Plan strongly recommended that the Piedmont Triad region establish “clear guidelines and policies to address extra-regional engagement in cluster-related activities” by, in part, “embracing furnishings organizations and activities of the Unifour region (Burke, Caldwell, Catawba, and Alexander counties).” The overall goal of the SBTDC (2009) plan was to engage and excite stakeholders in the value and future of the North Carolina furnishings cluster. It also sought to provide some focus on the strategies and actions to be undertaken that would elevate the competitive advantage of the furniture industry in both North Carolina and the Piedmont Triad.

C. A KEY IMPERATIVE

A key imperative for any successful cluster-focused effort is that policymakers carefully choose the right geographic level of analysis for developing a statewide cluster initiative focused on the furniture industry. Thus far, only a limited amount of empirical analysis has been conducted on disentangling the economic geography of the furniture value chain at a statewide level. The purpose of this report is to rectify that deficit.

PURPOSE AND RATIONALE

The purpose of this report is to elevate the level of awareness of both the North Carolina and Piedmont Triad regional furnishings cluster by quantifying its broader geographic reach and overall economic impact. One goal of the analysis is to strengthen the state and region's position in the global furniture value chain. A crucial imperative for any successful cluster-focused effort is to choose the right geographic level of focus. What is the appropriate mega-region and what are the exact firm specific geographies and economic impacts?

Although the asset mapping will be conducted at a statewide level of analysis, specific attention will be focused on inventorying the furniture value chain in the Piedmont Triad and the UniFour region (Alexander, Burke, Caldwell and Catawba counties) to better understand the full economic impact of the broadly defined region's furnishings cluster.

A major goal of this research is to provide a more rigorous asset mapping of the value chain at a broader geographic scale to help to more effectively communicate the economic impact of the region's furnishings cluster both within the region and to state policy leaders, including the Governor and the General Assembly.

A. THE CHARGE

Our understanding is that the Piedmont Triad Partnership wishes to know:

- What is the **full extent of the geographic reach** of the North Carolina furnishings cluster and what are the **key sub-markets** within the cluster that appear capable of enhancing the competitive advantage of the mega-region's furniture value chain?

- What are the **economic impacts** of the furniture value chain in terms of number of firms, number of jobs, average wages and related spillover effects?

- What are the **strategic opportunities and best practices** in the furniture cluster based on interviews with furniture executives and related leaders?

PROJECT METHODOLOGY

A. DEFINING THE FURNITURE VALUE CHAIN

The furniture value chain can be considered to be the full range of activities that furniture establishments and workers carry out to bring a product from its conception to its end use. It can include activities such as design, production and manufacturing, distribution and retail support to the final consumer. Increasingly, these activities are divided among different firms since few firms are large enough to effectively encompass the entire value chain.

We utilize the North American Industry Classification System (NAICS) as a starting point for comparing the economic performance of the furniture value chain across the state. The NAICS code is defined by the Office of Management and Budget (OMB) of the federal government and utilized to classify industry nationwide. The NAICS code is a production-oriented classification system for business establishments that groups together firms using comparable processes to produce goods or services.

In identifying the appropriate NAICS codes that comprise the furniture value chain we borrowed heavily from the American Home Furnishing Alliance (AHFA) furniture industry definition and Gereffi (2007). We developed a conservative definition of the furniture value chain focusing largely on furniture manufacturing, furniture distribution, furniture retail, furniture design, and other related furniture services.

Our furniture value chain definition does not include the raw material suppliers (e.g., wood/forestry, sawmills, cut wood stock, etc.), or producer service sectors such as furniture-related photography studios, various trade publications, and specialized furniture expertise in accounting and law firms since they invariably have inputs into many other industries besides furniture. Additionally, other related furniture activities that are largely episodic are not incorporated in this analysis including the High Point furniture market and related showroom renovations and set-ups. The latter does constitute a major bi-annual showcase function bringing furniture industry members to North Carolina since its establishment as a permanent facility in 1921. Beyond providing jobs involved directly in the Market, it increases the nationwide identity of the state of North Carolina with the furniture industry.

The end result is a focus on the following furniture based industries:

1. FURNITURE MANUFACTURING

NAICS 313210: Broad-woven Fabric Mills includes establishments primarily engaged in weaving broad-woven fabrics and felts (except tire fabrics and rugs). Establishments in this industry may weave only, weave and finish, or weave, finish, and further fabricate fabric products.

NAICS 3371: Household and Institutional Furniture and Kitchen Cabinet Manufacturing includes establishments manufacturing household-type furniture, such as living room, kitchen and bedroom furniture and institutional (i.e. public building) furniture, such as furniture for schools, theaters, and churches. Sub-industries included:

> **NAICS 337110: Wood Kitchen Cabinet and Countertop Manufacturing** includes establishments primarily engaged in manufacturing wood or plastics laminated on wood kitchen cabinets, bathroom vanities, and countertops (except freestanding). The cabinets and counters may be made on a stock or custom basis.
>
> **NAICS 337121: Upholstered Household Furniture Manufacturing** includes establishments primarily engaged in manufacturing upholstered household-type furniture. The furniture may be made on a stock or custom basis.
>
> **NAICS 337122: Non-upholstered Wood Household Furniture Manufacturing** includes establishments primarily engaged in manufacturing non-upholstered wood household-type furniture and freestanding cabinets (except television, radio, and sewing machine cabinets). The furniture may be made on a stock or custom basis and may be assembled or unassembled (i.e., knockdown).
>
> **NAICS 337127: Institutional Furniture Manufacturing** includes establishments primarily engaged in manufacturing institutional-type furniture (e.g., library, school, theater, and church furniture). The furniture may be made on a stock or custom basis and may be assembled or unassembled (i.e., knockdown).

NAICS 3372: Office Furniture (including Fixtures) Manufacturing includes establishments primarily engaged in manufacturing office furniture and/or office and store fixtures. The furniture may be made on a stock or custom basis and may be assembled or unassembled (i.e. knockdown).

NAICS 3379: Other Furniture Related Product Manufacturing includes establishments manufacturing furniture related products, such as mattresses, blinds and shades.

2. FURNITURE DISTRIBUTION

NAICS 4232: Furniture and Home Furnishing Merchant Wholesalers. Furniture merchant wholesaling includes establishments primarily engaged in the merchant wholesale distribution of furniture (except for hospital beds, medical furniture, and drafting tables.) Home furnishings merchant wholesaling includes establishments primarily engaged in the merchant wholesale distribution of home furnishings and/or housewares (except for electrical household-type goods and precious metal flatware).

3. FURNITURE RETAIL

NAICS 4421: Furniture Stores includes establishments primarily engaged in retailing new furniture, such as household furniture (e.g. baby furniture, box springs, and mattresses) and outdoor furniture; office furniture (except those sold in combination with office supplies and equipment); and/or furniture sold in combination with major appliances, home electronics, home furnishings, or floor coverings. (NAICS 4421 does not include retailing furniture via electronic home shopping, mail order, or direct sale nor the retailing of used furniture or the retailing of custom furniture made on premises.)

NAICS 4422: Home Furnishings Stores includes establishments primarily engaged in retailing new home furnishings (except furniture).

4. FURNITURE DESIGN

NAICS 541410: Interior Design Services includes establishments primarily engaged in planning, designing, and administering projects in interior spaces to meet the physical and aesthetic needs of people using them, taking into consideration building codes, health and safety regulations, traffic patterns and floor planning, mechanical and electrical needs, and interior fittings and furniture. Interior designers and interior design consultants work in areas, such as hospitality design, health care design, institutional design, commercial and corporate design, and residential design. This industry also includes interior decorating consultants engaged exclusively in providing aesthetic services associated with interior spaces.

NAICS 541420: Industrial Design Services includes establishments primarily engaged in creating and developing designs and specifications that optimize the use, value, and appearance of their products. These services can include the determination of the materials, construction, mechanisms, shape, color, and surface finishes of the product, taking into consideration human characteristics and needs, safety, market appeal, and efficiency in production, distribution, use, and maintenance. Establishments providing automobile or furniture industrial design services or industrial design consulting services are included in this industry.

5. OTHER FURNITURE SERVICES

NAICS 811420: Re-upholstery and Furniture Repair includes establishments primarily engaged in one or more of the following: (1) reupholstering furniture; (2) refinishing furniture; (3) repairing furniture; and (4) repairing and restoring furniture.

B. DATA SOURCES AND METRICS

Most of the data utilized to conduct the statewide asset mapping of the furniture value chain were obtained from the North Carolina Employment Security Commission (NCESC) based on three key metrics:

- Number of jobs by county
- Number of establishments by county
- Average wages by county

1. NORTH CAROLINA EMPLOYMENT SECURITY COMMISSION DATA

The NCESC data is based on the Quarterly Census of Employment and Wages Program which is a cooperative program involving the Bureau of Labor Statistics of the U.S. Department of Labor. The QCEW program produces a comprehensive tabulation of employment and wage information for workers covered by State unemployment insurance laws. The NCESC provides employment and wage data based on the NAICS code if disclosure restrictions are met. The BLS withholds publication of data when necessary to protect the identity of individual firms particularly when the number of firms in any given county is low – the so-called non-disclosure rule. Consequently, for those North Carolina counties that tended to employ low numbers of furniture workers, published data was sometimes not available to protect the confidentiality of the firm.

As both Gereffi (2007) and Holmes (2008) have noted, the average annual wage found in the annual data provided by the NCESC is computed by dividing total wage payments by the average insured employment for the given NAICS code. These figures are not true average wage scales because (1) the wages, but not employment, of all the different persons on the payroll are reflected, and (2) the assumption is made that workers worked the full quarter or year although a number of workers are not employed the whole year or quarter, and certain plants may stand idle a portion of the quarter or year. Additionally, furniture workers can be paid on an hourly or piece work basis which fluctuates greatly to reflect demand conditions. Consequently, these average wages should be considered merely as indicators of wage trends rather than actual wage rates.

2. REFERENCEUSA DATA

Other than the NAICS data, a second major source of data used to asset map the North Carolina furniture industry cluster was ReferenceUSA. Unlike the NCESC data, ReferenceUSA allows the user to catalogue and map specific furniture firm locations. The ReferenceUSA database contains detailed information on more than 14 million U.S. businesses. Information is compiled from the following public sources: more than 5,600 Yellow Page and Business White Page telephone directories; annual reports; 10-Ks and other SEC information; federal, state, and municipal government data; Chamber of Commerce information; leading business magazines, trade publications, newsletters, major newspapers, industry and specialty directories; and postal service information. Businesses with 100 or more employees are phone-verified at least twice a year and the database is continually updated.

ReferenceUSA is an excellent database for mapping specific firms since it provides a precise map coordinate location for all listed companies by NAICS code. The data utilized to build the North Carolina furniture value chain was accessed in fall 2009.

However, it should be noted that some company data are not fully reported in ReferenceUSA for reasons of confidentiality. Additionally, some firms are allocated different NAICS codes relative to the NCESC data based on how the firm might report its primary and secondary business interests to ReferenceUSA. Consequently, ReferenceUSA data can sometimes be inconsistent with NCESC data

ASSET MAPPING THE NORTH CAROLINA FURNITURE INDUSTRY

Asset mapping the spatial distribution of the furniture value chain in North Carolina will help policymakers to more rigorously assess the breadth and depth of the furniture industry across the state, allow communities to better understand how to support and grow the furniture industry locally, and provide statewide direction and understanding of the furniture industry in North Carolina.

A. THE NORTH CAROLINA FURNITURE VALUE CHAIN: A STATEWIDE PHENOMENON

Based on a spatial analysis of the ReferenceUSA database, the North Carolina furniture value chain included well over 4,000 firms that stretched from Murphy to Manteo and directly affected many aspects of everyday life in North Carolina (Figure 4). A wide range of furniture-related economic activities shape and influence the overall economic environment of the state of North Carolina. Furniture is a statewide industry with statewide economic effects.

B. RECENT ECONOMIC CHANGES AND THE KEY INDUSTRIES

The North Carolina furniture industry cluster suffered along with other industries over the past year as the state struggled with the full impact of the recent recession. Jobs in the furniture value chain declined from 76,193 jobs in 2008 to just 62,108 jobs during the second quarter of 2009 – a precipitous 22.6% decline in less than one year (Table 2 and 3). Average wages also declined from $36,766 to $34,517 over the same time period while the number of furniture establishments declined from 4,215 to 4,023 firms. The total wage bill for the North Carolina furniture value chain was $2.4 billion in 2008. A few bright spots existed regarding job growth with both the furniture and furnishings merchant wholesalers (NAICS 4232) and the manufacturing of related furniture products such as mattresses, blinds and shades (NAICS 3379) experiencing employment gains from 2008 through 2009 (2Q) (Table 2 and 3). Despite the recent aggregate employment losses, the most important elements of the North Carolina furniture value chain still generated a significant number of jobs. In terms of employment market share in 2009 (Q2) these sectors included:

1. Upholstered Household Furniture Manufacturing 17,115 (27.5%)
2. Furniture Retail Stores 8,698 (14.0%)
3. Home Furnishings Retail Stores 6,595 (10.6%)
4. Broadwoven Fabric Mills 5,662 (9.1%)
5. Office Furniture and Fixtures Manufacturing 5,403 (8.7%)

Figure 4. Spatial Distribution of the Furniture Industry, 2009

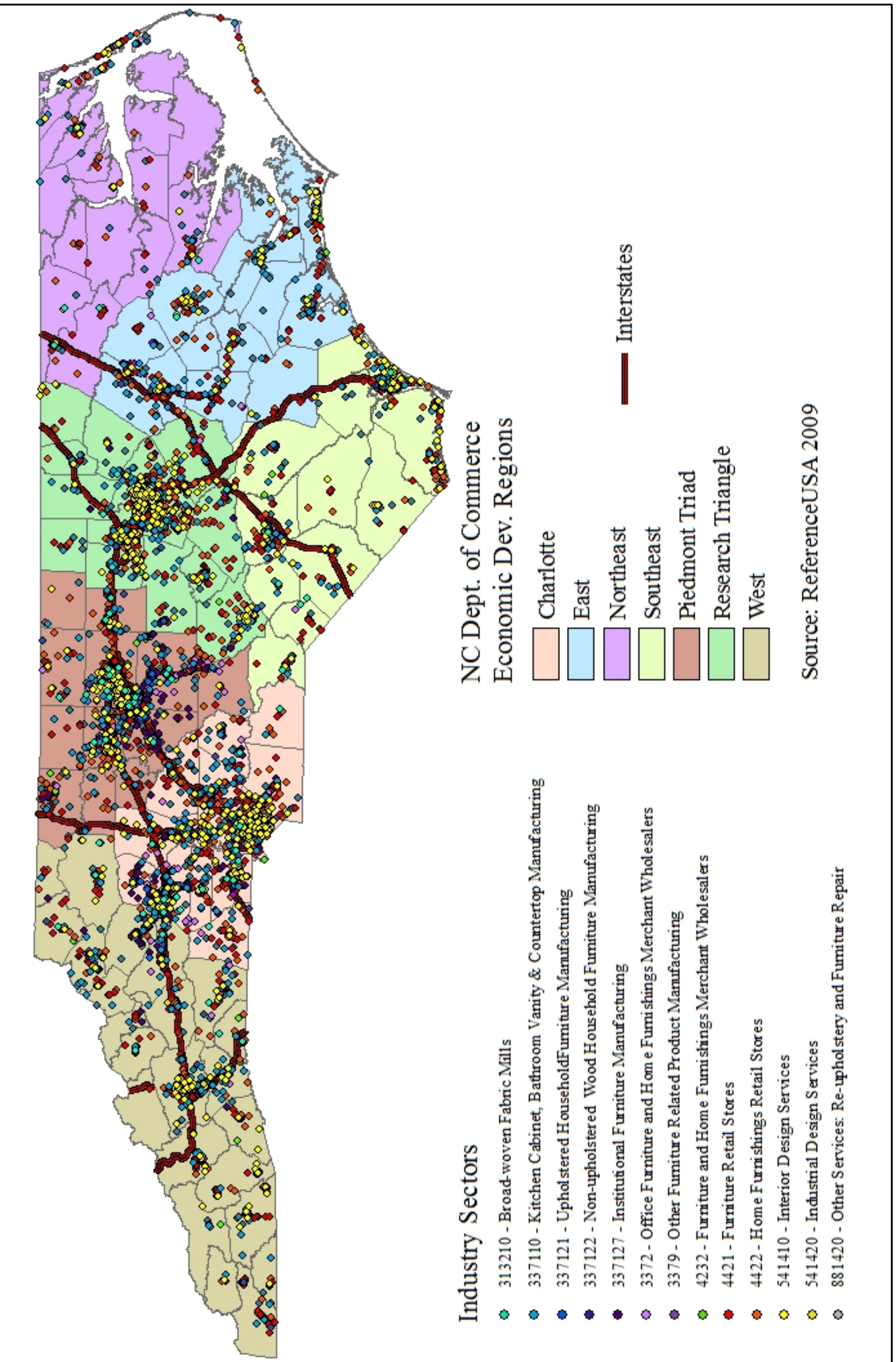


Table 2. North Carolina Furniture Industry 2008

NAICS	Industry	Estab.	Employ	Wages
313210	Broadwoven Fabric Mills	69	7,242	34,301
3371	Household and Institutional Furniture	806	35,241	30,232
337110	Wood Kitchen Cabinets and Countertops	350	5,633	31,160
337121	Upholstered Household Furniture Mfg	245	21,386	30,181
337122	Nonupholstered Wood Household Furniture	143	6,521	29,349
337127	Institutional Furniture Manufacturing	20	392	28,428
3372	Office Furniture and Fixtures Mfg	230	6,574	31,908
3379	Other Furniture Related Product Mfg	43	2,845	44,662
4232	Furniture & Furnishings Merchant Whsle	391	4,057	47,583
4421	Furniture Stores	1,006	9,971	31,872
4422	Home Furnishings Stores	1,016	8,262	23,745
541410	Interior Design Services	377	989	33,384
541420	Industrial Design Services	95	356	65,692
811420	Reupholstery and Furniture Repair	182	656	24,279
	NC Total	4,215	**76,193**	
	NC Average			36,766

Table 3. North Carolina Furniture Industry Q2 2009

NAICS	Industry	Estab.	Employ	Wages
313210	Broadwoven Fabric Mills	66	5,662	35,112
3371	Household and Institutional Furniture	768	27,039	30,305
337110	Wood Kitchen Cabinets and Countertops	334	3,524	32,183
337121	Upholstered Household Furniture Mfg	233	17,115	30,209
337122	Nonupholstered Wood Household Furniture	131	4,832	28,872
337127	Institutional Furniture Manufacturing	22	388	26,751
3372	Office Furniture and Fixtures Mfg	218	5,403	31,019
3379	Other Furniture Related Product Mfg	42	2,878	39,444
4232	Furniture & Furnishings Merchant Whsle	388	4,160	42,715
4421	Furniture Stores	965	8,698	29,738
4422	Home Furnishings Stores	951	6,595	22,348
541410	Interior Design Services	363	775	31,493
541420	Industrial Design Services	89	350	59,986
811420	Reupholstery and Furniture Repair	173	548	23,015
	NC Total	4,023	**62,108**	
	NC Average			34,517

Collectively, these five industries accounted for 43,473 jobs or 70% of all jobs in the North Carolina furniture value chain. In particular, it would seem that upholstered household furniture manufacturing is a bellwether of the overall condition of the furniture cluster in North Carolina given the large proportion of jobs generated by this one industry.

C. THE PIEDMONT MEGA-REGION

Although the furniture industry impacts the economic livelihood of nearly every county in North Carolina (Figure 4 and 5), its geographic footprint is heavily concentrated in the Piedmont Triad and Unifour regions with supplementary furniture clusters (predominantly furniture retail outlets) in the Charlotte and Research Triangle metropolitan areas (Figure 5 and Table 4). The sprawling Piedmont mega-region of the Triad and Unifour region extends over 150 miles along the Interstate-40 corridor stretching from Morganton in the west through Burlington in the east (Figure 6 and Table 4).

A major finding is that the Piedmont Triad (Alamance, Davidson, Forsyth, Guilford, Montgomery, Randolph, and Surry counties) and the Unifour region (Alexander, Burke, Caldwell, Catawba plus Wilkes counties) collectively accounted for 42,207 furniture jobs and 1,302 establishments in North Carolina in 2008 – well over one-half (55.4%) of all furniture jobs in the state (Figure 6 and Table 4). (For additional details, see Appendix One – Three).

Furthermore, although some previous studies have suggested that the Triad furnishings cluster is one of the largest in the country, it is not much different in size from the nearby Unifour region in terms of direct employment generation. For example, the Triad region generated a total of 21,472 furniture jobs in 2008 compared to 20,735 jobs in the Unifour region. Of course, the Triad hosts the International Furniture Market in High Point and the Unifour region has far fewer establishments (899 versus 403, respectively) implying that the overall firm size is smaller in the Triad region.

1. THE CATAWBA – GUILFORD COUNTY "BOOK-ENDS"

The bookends to the Piedmont mega-region include Catawba and Guilford County which ranked first and second in the state in total furniture employment generation with 10,870 and 9,388 furniture jobs, respectively (Table 4). Catawba and Guilford County are collectively responsible for over one quarter (i.e., 26.6%) of all furniture-related jobs in North Carolina, illustrating the crucial role both counties play in shaping the state's furniture value chain.

Furniture firms in Catawba are more than twice as big as in Guilford County (i.e., average firm size of 47.3 jobs compared to 19.7 jobs in Guilford County) but this varies

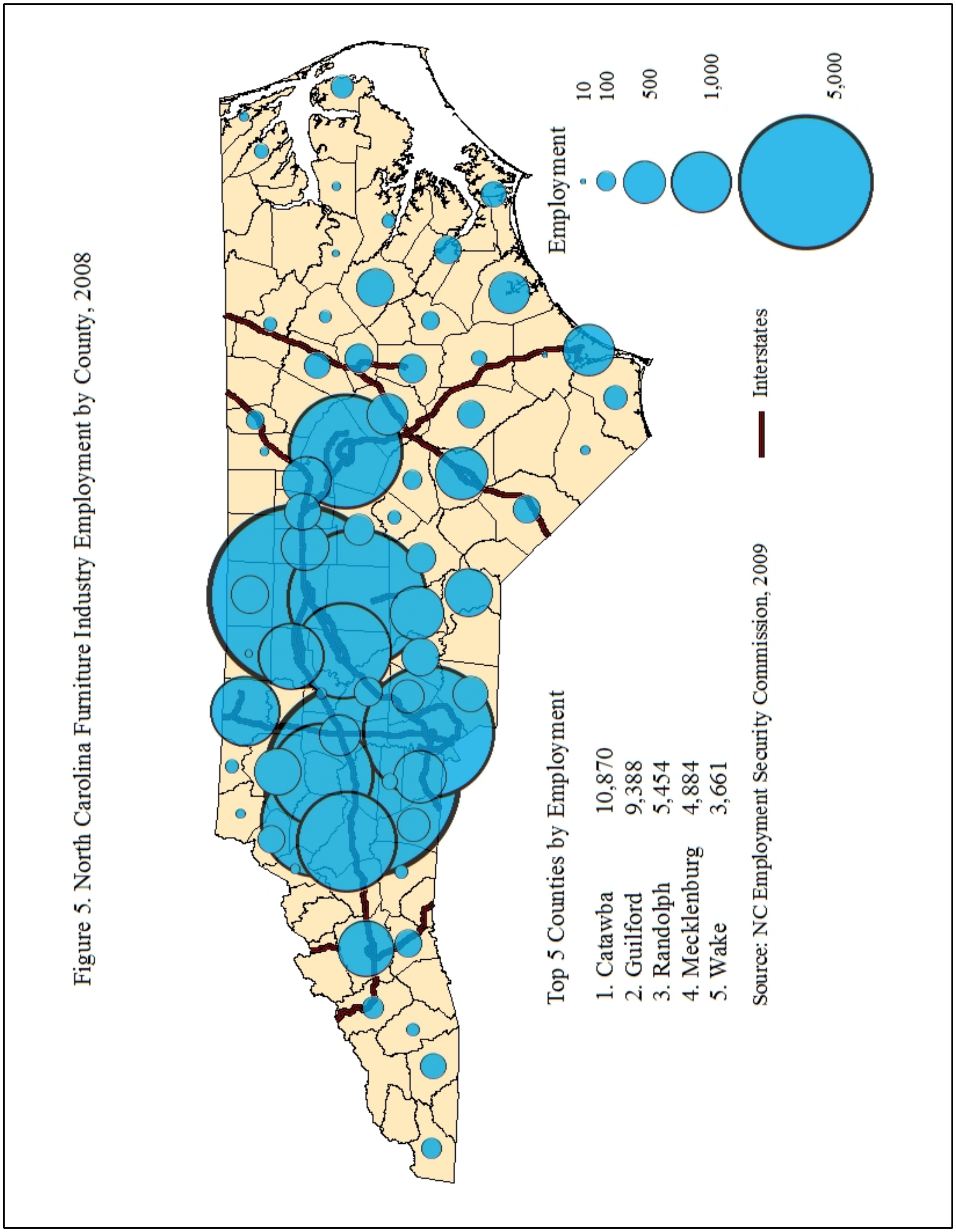
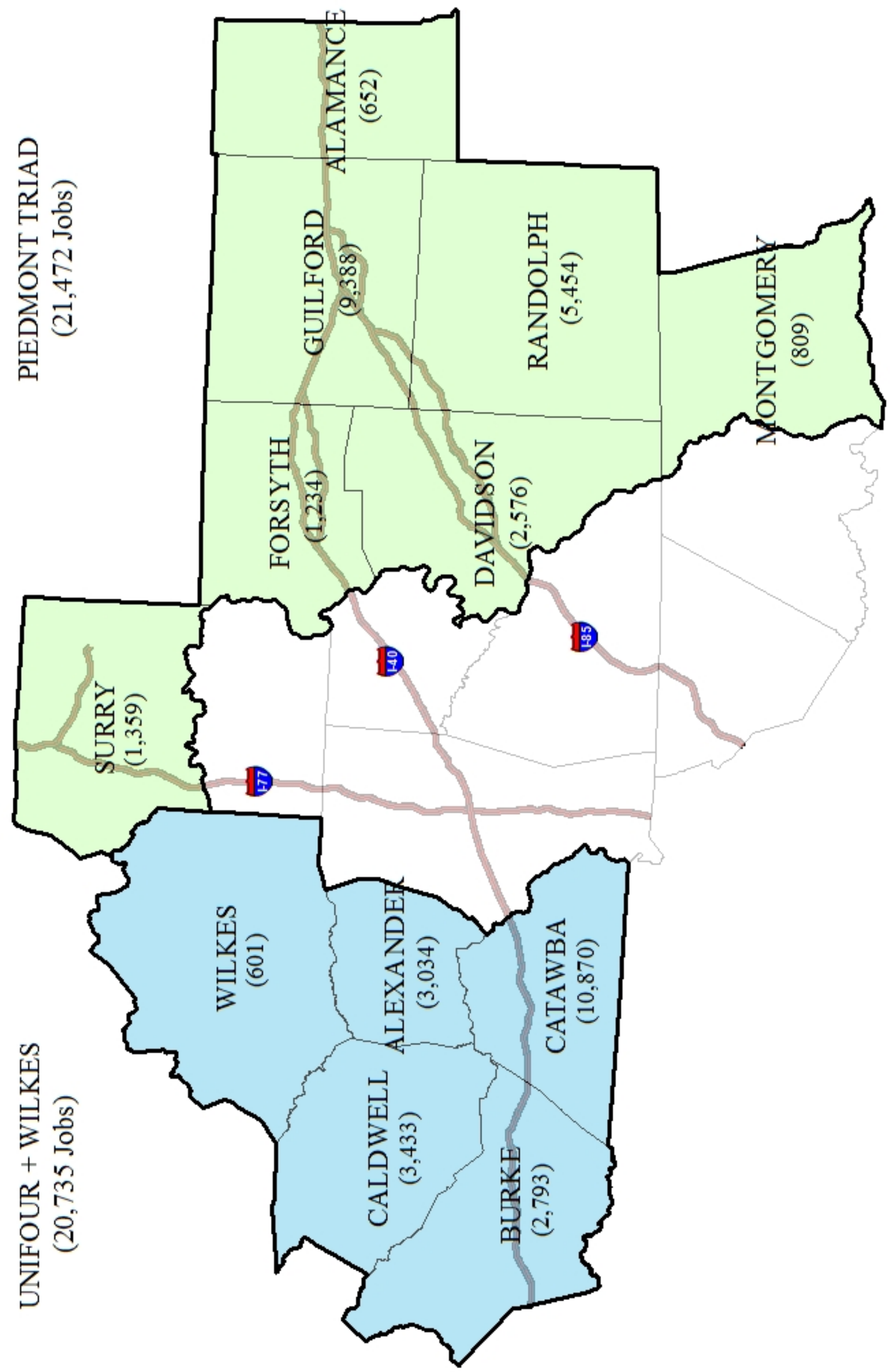


Figure 5. North Carolina Furniture Industry Employment by County, 2008

Figure 6. The Piedmont Mega-Region: Total Furniture Value-Chain Employment by County, 2008



substantially by industry type. By contrast, average wages are higher in Guilford County ($39,654 versus $31,661, respectively) suggesting that the furniture industry cluster may be generating a higher value-added experience in Guilford relative to Catawba – particularly if average wages are a surrogate for skills and quality products.

Table 4. North Carolina Counties Ranked by Total Employment in the Furniture Industry Value Chain, 2008

County	Employment	Establishments	Avg. Wages	Region
Catawba	10,870	230	31,661	Charlotte
Guilford	9,388	476	39,654	Piedmont Triad
Randolph	5,454	100	28,113	Piedmont Triad
Mecklenburg	4,884	450	34,736	Charlotte
Wake	3,661	378	30,870	Triangle
Caldwell	3,433	68	28,579	West
Alexander	3,034	35	29,304	Charlotte
Burke	2,793	59	35,588	West
Davidson	2,576	116	29,256	Piedmont Triad
Surry	1,359	24	24,215	Piedmont Triad
Forsyth	1,234	118	31,713	Piedmont Triad
Buncombe	888	116	30,348	West
Montgomery	809	18	20,880	Piedmont Triad
Cumberland	782	83	30,531	Southeast
Gaston	775	54	28,677	Charlotte
NewHanover	730	109	27,143	Southeast
Durham	665	79	27,774	Triangle
Richmond	656	11	26,511	Southeast
Alamance	652	47	27,318	Piedmont Triad
Wilkes	601	11	28,091	West

Source: NCESC, 2008

I. COMPLEMENTARY FURNITURE ECONOMIES

Although the Catawba and Guilford furniture industries are of equivalent size and stature, in many respects they both emphasize complementary, rather than directly competitive, value chains and furniture-related offerings and products. Although both regions appear to have had limited communication historically and offer few coordinated products, the complementary role of each local economy suggests a more cooperative promotional strategy might be useful especially regarding lobbying the General Assembly and Governor's Office for additional resources.

II. CATAWBA COUNTY: AN UPHOLSTERED HOUSEHOLD FURNITURE MANUFACTURING POWERHOUSE

The Catawba County furniture value chain is heavily concentrated in furniture manufacturing and especially upholstered household furniture (Table 5). In 2008, Catawba County was the largest upholstered household furniture manufacturing labor market in the state with 8,345 jobs (39% of the state total). Nearly all the jobs in the Catawba County furniture value chain were concentrated in upholstered furniture manufacturing since it accounted for 76.7% of all furniture jobs in the county. Although Guilford County was the fourth ranked upholstered furniture market in the state it was less than one-quarter the size of the Catawba upholstered furniture economy generating just 1,800 jobs (Table 5). Furthermore, upholstered manufacturing only accounted for 19.2% of all furniture jobs in Guilford County, suggesting the county has a more diversified furniture industry relative to Catawba County. Both Catawba and Guilford upholstered workers made an average wage of just over $32,000 in 2008.

Table 5. Catawba and Guilford County Furniture Employment and Average Wages, 2008

	Catwaba County		Guilford County	
	Employment	Avg Wages	Employment	Avg. Wages
Fabric Mills	0	-	1,161	49,656
Upholstered	8,345	32,551	1,800	32,648
Non-Uphols.	937	28,058	265	46,341
Office Furn.	929	29,167	860	37,104
Blinds, shades	ND	ND	945	40,828
Wholesaling	112	38,494	973	58,068
Furn Retail	302	30,222	1,597	36,153
Fshgs Retail	127	20,570	688	25,531
TOTAL	10,870	31,661	9,388	39,654

III. GUILFORD COUNTY: A MORE DIVERSIFIED FURNITURE CLUSTER

Much like Catawba County, the largest segment of the furniture value chain in Guilford County in terms of employment generation was upholstered furniture manufacturing. However, Guilford County featured prominently in several other furniture specializations (Table 5). Guilford was the largest employer by county in the state in the following industries:

- furniture retail (1,597 jobs and 16% of the state total)

- furniture related manufacturing of mattresses, blinds and shades (945 jobs and 33% of the state total)
- furniture and home furnishings merchant wholesalers (973 jobs and 24% of the state total), and
- furniture design services (interior and industrial design combined)

Additionally, some of the average wages paid in these specializations were robust. For example, furniture wholesalers in Guilford County earned an average salary of $58,068 in 2008 while furniture manufacturers of mattresses, blinds and shades generated $40,828 in average wages.

Another important component of the furniture value chain in Guilford County included broad woven fabric mills which generated 1,161 jobs in 2008 (16% of the state total) and ranked as the second largest fabric mill producer/center in the state behind only Burke County (1,191 jobs) located in the Unifour region. Average wages for broad woven fabric mill workers in Guilford County were $49,656, substantially above the state average of $34,301.

It should also be noted that Guilford County has significant strengths in Kitchen Cabinet, Bathroom Vanity and Countertop manufacturing given the notable presence of Marsh Furniture in High Point. However, the 2008 North Carolina ESC data for Guilford County was withheld for non-disclosure reasons although this sector generated 792 jobs in Guilford County in 2001.

2. OTHER MARKET STRENGTHS IN THE FURNITURE FOOTHILLS: ALEXANDER, CALDWELL AND RANDOLPH COUNTIES

Although both Catawba and Guilford Counties are the major growth poles of the Triad and Unifour furniture markets, it is clear that other parts of the Piedmont mega-region have related strengths. Perhaps the most notable example is Randolph County and the Asheboro area which ranked first in the state in office furniture manufacturing employment with 1,011 jobs (15.4% of the state total). Randolph County was also the second highest employer of upholstered furniture manufacturing workers with 3,645 jobs (17% of the state total).

Additionally, both Alexander and Caldwell County in the Unifour region featured prominently in a few niches. Alexander County was ranked third in total employment in upholstered furniture with 2,792 jobs (13% of the state total) . By contrast, Caldwell County and the Lenoir area generated 1,255 jobs (19.2% of the state total) in non-upholstered wood household furniture manufacturing and ranked first in the state.

D. THE CHARLOTTE AND RALEIGH FURNITURE MARKETS

Both Mecklenburg and Wake County are important furniture markets but only in regard to more 'downstream" furniture-related activities such as retail, wholesaling, and design services. Much of this activity is related to the affluent consumer markets in both counties. (For additional details, see Appendix One and Two).

1. FURNITURE/HOME FURNISHINGS RETAIL

Mecklenburg County and Wake County were the second and third largest furniture retail store markets in the state – behind only Guilford County – in terms of total employment. Mecklenburg generated 1,357 jobs in 83 establishments with average wages of $38,375 compared to a total of 1,597 jobs in Guilford County. By contrast, Wake County generated 1,096 jobs and paid an average of $37,263. These stores sold new furniture to consumers including household furniture, office furniture, and furniture sold in combination with major appliances and home electronics. Mecklenburg and Wake accounted for 24.6% of all furniture retail jobs in the state.

Mecklenburg and Wake also ranked first and second in terms of the total number of jobs in home furnishings retail and the two counties collectively accounted for 35.8% of all such jobs in the state. Mecklenburg County generated 1895 jobs in home furnishing but average wages were only $23,114. In Wake County, average wages were only slightly higher at $24,122 with 1,084 jobs in 127 establishments. Guilford County ranked third in home furnishings retail with 688 jobs.

2. FURNITURE/HOME FURNISHINGS MERCHANT WHOLESALERS

Furniture wholesalers are primarily engaged in the wholesale distribution of furniture or home furnishings and/or housewares and tended to be geographically concentrated to the more populous counties. Mecklenburg County was the second largest wholesalers market in the state behind only Guilford County, and generated 608 jobs paying average wages of $49,406. Wake County was ranked fourth with just 236 jobs.

3. INTERIOR AND INDUSTRIAL DESIGN SERVICES

Although furniture designers are a growth industry in North Carolina, it is difficult to accurately measure their economic impact because the NAICS code definition of furniture design is broad and includes a wide variety of interior and industrial design services other than furniture.

That said, the three leading design counties in the state are Guilford (253 jobs), Mecklenburg (207 jobs) and Wake County (184 jobs) – when combining interior and industrial design employment – although the aggregate job totals are small and most of the establishments tend to be small businesses.

4. FURNITURE MANUFACTURING: KITCHEN CABINET, BATHROOM VANITY AND COUNTERTOP

Furniture manufacturing is not a major strength in either the Mecklenburg or Wake County local economies, but both counties have developed significant market niches in kitchen cabinet, bathroom vanity and countertop manufacturing. Wake County is the largest such manufacturing market in North Carolina with 845 jobs although average wages are low at $28,600. Mecklenburg has fewer jobs in this niche (320 jobs) but average wages are much higher at $43,632.

E. REST OF STATE

Although the Piedmont mega-region and the Charlotte and Raleigh furniture clusters account for approximately two-thirds of all jobs in the North Carolina furniture industry, several smaller industry clusters exist outside central North Carolina including Buncombe County (888 jobs), Cumberland County (782 jobs), and New Hanover County (730) (Figure 5 and Table 4). Although the aggregate furniture employment in these three counties was just 2,400 jobs – with 80% of these jobs in furniture/home furnishings retail – they remind us that the North Carolina furniture industry plays an important role in generating jobs across the entire state. Indeed, North Carolina remains a furniture industry powerhouse nationwide.

F. VARIATIONS IN FURNITURE MANUFACTURING FIRM SIZE

A good example of the dramatic differences in average firm size based on total employment is provided in Figure 7 which illustrates the geography of furniture manufacturing (excluding office furniture and mattresses, blinds and shades). Although the geographic concentration of furniture manufacturing (NAICS 3371) to the Piedmont mega-region is self-evident in Figure 7, the region has effectively nurtured large, medium and small-sized establishments. Based on North Carolina Employment Security Commission data, the statewide furniture manufacturing sector (NAICS 3371) created 27,039 jobs in 768 establishments in Q2 2009. However, an analysis based on ReferenceUSA data suggests that the percentage of firms by employment size included:

- 0 – 9 persons per establishment (65.1%)
- 10 – 49 persons per establishment (24.0%)
- 50 – 99 persons per establishment (4.5%)

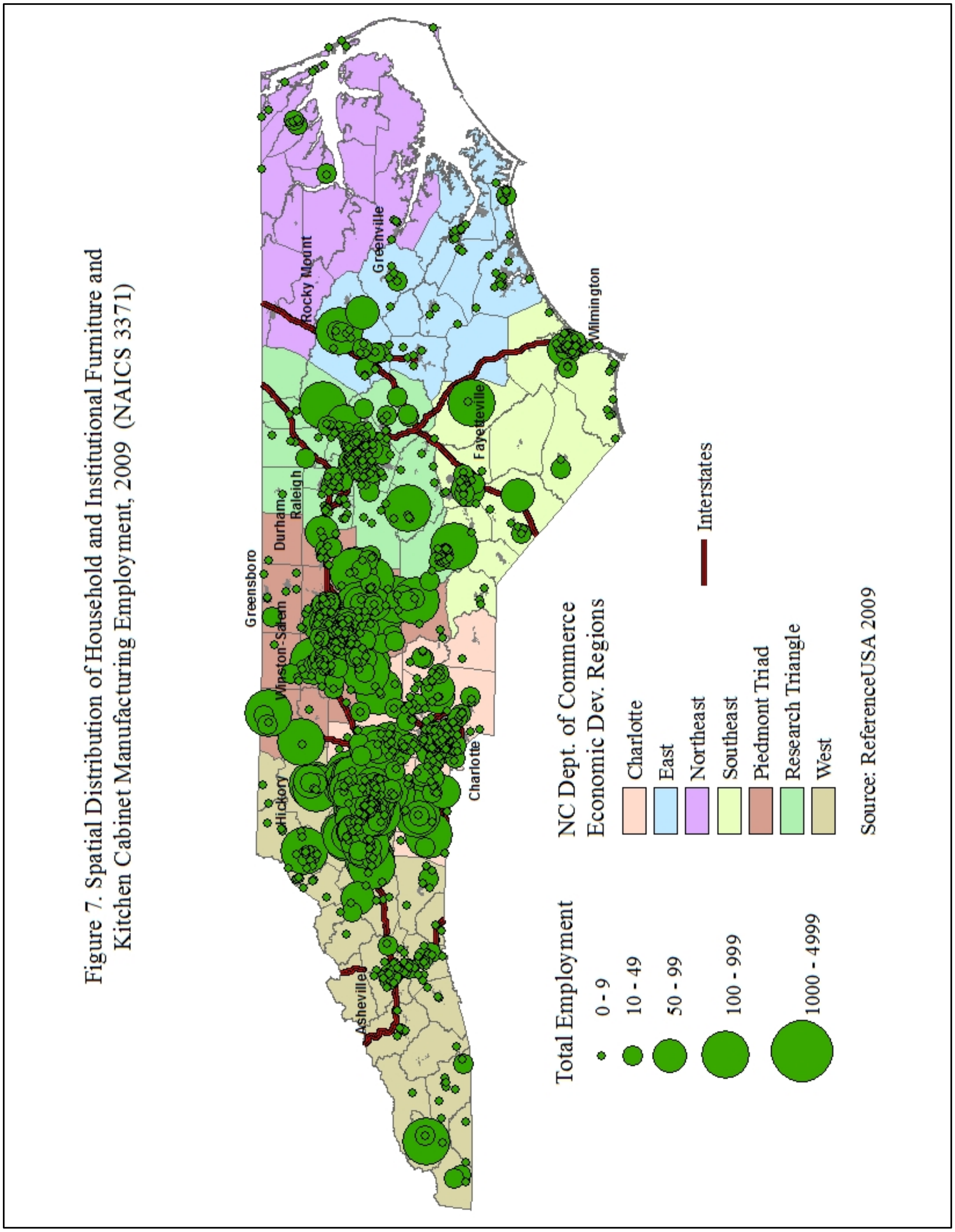


Figure 7. Spatial Distribution of Household and Institutional Furniture and Kitchen Cabinet Manufacturing Employment, 2009 (NAICS 3371)

- 100 – 999 persons per establishment (4.7%)
- 1000 – 4999 persons per establishment (1.0%)

The variation in firm size and the large proportion of small firms suggests that furniture manufacturing in North Carolina is evolving away from an over-reliance on a small number of large furniture manufacturing plants to a more dynamic and nimble system, in part, due to the adoption of lean manufacturing innovations. Small and medium size entities are noted for having a higher contribution to employment creation due to the need for separate support function jobs such as accounting and managerial positions.

Additionally, the evolution of a more complex production chain has placed a premium on developing networked relationships with related furniture manufacturers in spatially concentrated industry clusters that place a premium on customization and just-in-time production systems. It should also be noted that the demise and decline of some large firms such as White Industries and Henredon contributed top-performing employees to other North Carolina located firms such as Craftique and Stickley's Nickel and Stone. It is at this level that intra-state information exchange occurs and dedicated furniture industry talent returns to new furniture jobs, notwithstanding state retraining programs.

FURNITURE ECONOMIC IMPACT IN THE PIEDMONT MEGA-REGION: RIMS MULTIPLIER EFFECTS

A. BACKGROUND: RIMS METHODOLOGY

The Regional Industrial Multiplier System (RIMS) was created and is used by the U.S. Bureau of Economic Analysis (BEA). The RIMS methodology is intended to show "the distribution of the inputs purchased and the outputs sold" for a particular specified industry. RIMS II analyses are useful for demonstrating relationships among industries within a region. The RIMS method helps to demonstrate how changes in one target industry, like furniture, can cause region-wide impacts due to a change in the employment, output, or earnings of the target industry.

The various sectorally based definitions of each industry such as furniture are pre-determined by the BEA based on the NAICS code methodology. It should be noted that the BEA definition of furniture differs from the broader furniture value chain definition utilized in the earlier sections of this report. The BEA furniture definition is largely focused on furniture manufacturing and does not include other elements of the value chain such as distribution, retail or design.

The BEA updated its original system by calculating impacts based on regional data from the year 2006, benchmarked for 473 detailed industries (like furniture) that was linked back to research based on national input-output data for 1997. BEA analysts advise using data from the year 2006 to best correspond to the "multipliers", or impact assessment numbers, that the BEA provides in the RIMS II data sets.

The BEA furnishes multipliers in various categories that are designed to show the effects within a particular region (composed of contiguous counties that are selected by the user) of an initial one year change in earnings (i.e., the wages of employees), value-added elements, employment (i.e., jobs in that sector), and/or output (i.e., sales) in particular industry segments. The types of multipliers available through the BEA are known as Type I and Type II multipliers. The type used in this analysis of the North Carolina furniture industry is Type II – the most comprehensive industry impact analysis. Type II takes into consideration the direct, indirect, and induced effects of household purchases for a one year change in economic activity. These various effects ripple through a region's economy and, in turn, impact that region's output, earnings, and employment. Type I multipliers only cover direct and indirect effects, excluding the impact of household purchases, and so are less comprehensive and less frequently used multipliers, according to the BEA which supplies the data.

The direct effects are related to how many jobs and how much wages accrue to workers employed in the furniture industry. Indirect effects relate to the impact in furniture related industries not included in the core NAICS codes, e.g., lumber, sawmills, trucking, packing, etc. Induced effects relate to the economic consequences in the region of expenditures by those involved in the furniture industry, e.g., their food, clothing, and housing payments. RIMS II analysis can be used as a planning exercise to calculate, for example, the effects on the number of jobs and the associated increase or decrease of workers' wages on the economy of the region if, for example, a new factory were to open, an industry were to leave the region, or employment (or wages) were to change in a remaining industry.

B. THE STUDY AREA

The period chosen in this study to demonstrate the impact of changes in the furniture industry are from 2006 (the year BEA uses to benchmark the multipliers) relative to 2007. This period is particularly appropriate due to the heavily downward, anomalous impact of the recession on 2008 data and the incomplete nature of 2009 data. For the purposes of this study, the region is composed of those counties with significant furniture related employment in the Piedmont mega-region: Alexander, Burke, Caldwell, Catawba, Davidson, Forsyth, Guilford, Montgomery, Randolph, Surry, and Wilkes County. Virginia's Patrick, Carroll (plus the City of Galax), and Pittsylvania (plus the City of Danville) counties were also included in the study to calculate the regional multipliers in order to capture the spillover effects from the Southside Virginia area bordering the Piedmont mega-region. The numbers used to calculate the change effects were obtained from the North Carolina Employment Security Commission and the Virginia Employment Commission. Detailed data on the furniture industry in Southside Virginia was only available for the city of Galax and even then only for the non-upholstered wood household furniture industry. All other furniture-related manufacturing data for Galax and the other cities and counties in Virginia included in this analysis did not report data due to the non-disclosure rule.

C. THE RIMS MULTIPLIERS

There are two basic classes of Type II multipliers. According to the BEA, Final Demand multipliers are used to measure changes in output, earnings and employment in the following manner:

- Final demand output multipliers represent the total dollar change in output that occurs in all industries for each additional dollar of output delivered to final demand by the furniture manufacturing industry

- Final demand earnings multipliers represent the total dollar change in earnings of households employed by all industries for each additional dollar of output delivered to final demand by the furniture manufacturing industry

- Final demand employment multipliers represent the total change in the number of jobs that occurs in all industries for each additional $1 million of output delivered to final demand by the furniture manufacturing industry.

Final Demand multipliers are based on national average data, and demonstrate the interactive links among industries while Direct Effect multipliers are calculated from regional data. According to the BEA, <u>Direct Effect multipliers</u> are used to measure changes in earnings and employment in the following manner:

- Direct Effect earnings multipliers represent the total dollar change in the earnings of households employed by all industries for each additional dollar of earnings paid directly to households employed by the furniture manufacturing industry

- Direct Effect employment multipliers represent the total change in the number of jobs in all industries for each additional job in the furniture manufacturing industry.

D. THE FINDINGS: FURNITURE OUTPUT, EMPLOYMENT AND EARNINGS IN THE PIEDMONT MEGA-REGION

1. FURNITURE MULTIPLIERS IN THE AGGREGATE

The multipliers in Table 6 indicate the output, earnings and employment changes likely to be generated by the **<u>aggregate</u>** of all furniture manufacturing activities located in the Piedmont mega-region. The furniture industry in the region is consistently above the overall manufacturing industry average for the Piedmont mega-region suggesting that focusing efforts on stabilizing and/or growing the furniture sector is likely to lead to a "bigger bang for your buck." For example, furniture manufacturing in the Piedmont mega-region generated the following rankings relative to the other 18 manufacturing industries listed by the BEA (which included fabricated metal manufacturing, computer and electronic product manufacturing, textile and textile product mills, and others):

- the third highest Final Demand Output multiplier
- the highest Final Demand Earnings multiplier
- the highest Final Demand Employment multiplier, and
- the ninth highest Direct Effect Earnings multiplier

Table 6. Final Demand and Direct Effect Multipliers for the Furniture Manufacturing Industry in the North Carolina Piedmont Mega-Region, 2006

	Final Demand			Direct Effect	
	Output	Earnings	Employment	Earnings	Employment
Furniture	2.3028	0.5523	16.0779	2.3216	2.1391

Source: U.S. BEA

However, it should also be noted that the furniture manufacturing Direct Effect Employment multiplier of 2.14 was the second lowest in the region – only Printing and related support activities generated a lower multiplier (2.0560). Despite this, most of the multipliers suggest that the furniture industry is well integrated into the overall regional economy with substantive links with a wide range of suppliers and related industries.

Using the BEA definition for RIMS II categories and the multipliers listed in Table 6, the findings included the following:

- The <u>Final Demand Output multiplier</u> shows that each additional dollar of output delivered to final demand by the furniture manufacturing industry leads to an additional $2.30 in output for all industries.
- The <u>Final Demand Earnings multiplier</u> shows that each additional dollar of output delivered to final demand by the furniture manufacturing industry leads to an additional 55.2 cents in the earnings of households employed by all industries.
- The <u>Final Demand Employment multiplier</u> shows that an additional $1 million of output delivered to final demand by the furniture manufacturing industry will generate an additional 16 jobs in all industries.
- The <u>Direct Effects Earnings multiplier</u> shows that each additional dollar of earnings paid directly to households employed by the furniture manufacturing industry will generate an additional $2.32 in the earnings of households employed by all industries
- The <u>Direct Effects Employment multiplier</u> shows that each additional job generated in the furniture manufacturing industry will generate an additional 2.14 jobs in all industries.

Although the aggregate furniture multipliers suggested an industry that was well integrated into the Piedmont mega-region economy, the statewide contribution of furniture to North Carolina's Gross Domestic Product from 2006-2007 actually declined by $161 million. This reflected a drop in the value of furniture and related product manufacturing outputs (NAIC 337, including mattresses, window blinds, cabinets, fixtures along with their shaping, assembly and design) as the furniture contribution to state Gross Domestic Product declined from $2,883 million in 2006 to $2,722 million in 2007 (source: U.S. BEA). The percent of the decline in output represented by the Piedmont mega-region is estimated to be about $102.40 million based on a Piedmont mega-region employment market share of approximately 63.6% of statewide furniture manufacturing jobs in North Carolina from 2006-07. Given the significant inter-industry linkages that exist in the Piedmont mega-region as measured by the Final Demand and Direct Effect multipliers, it is clear that the declines in output will have a significant negative ripple effect on the overall economic performance of the region.

2. FURNITURE MULTIPLIERS BY SUB-SECTOR

The size of the Direct Effect multipliers for each furniture sub-sector in the Piedmont mega-region is of interest in itself (Table 7). For example, some of the highest employment and earnings direct effect multipliers are for mattresses, blinds and shades – one of the few furniture manufacturing industries to grow jobs in North Carolina from 2008 to Q2 2009 (Table 2 and 3). The implication here is that pursuing growth in this furniture manufacturing niche may well generate a disproportionately large return on investment in terms of employment and earnings impacts on the state's economy. Furthermore, upholstered household furniture manufacturing also generated very high direct effect multipliers relative to other forms of furniture manufacturing (Table 7). Consequently, North Carolina economic development policymakers should perhaps

Table 7. Furniture Industry Sectors Ranked by Direct Effect Multipliers for the Piedmont mega-region, 2006

Employment Multipliers		Earnings Multipliers	
Mattresses	2.89	Mattresses	2.72
Blinds, shades	2.36	Upholstered household furniture	2.46
Office furniture	2.27	Blinds, shades	2.25
Upholstered household furn.	2.26	Other household & institutional	2.21
Other household & institute.	2.14	Non-upholstered furniture	2.17
Wood office furniture	2.05	Office furniture except wood	2.15
Kitchen cabinet, counter	2.00	Kitchen cabinet, counter	2.08
Non-upholstered furniture	1.95	Wood office furniture	2.09
Custom woodwork	1.86	Metal household furniture	2.05
Metal household furniture	1.85	Institutional furniture	1.99
Institutional furniture	1.84	Showcases, partitions, shelves	1.86
Showcases, shelves	1.75	Custom woodwork	1.74

prioritize and aggressively retain jobs in upholstery since it is already such a major component of North Carolina's furniture industry and well connected to other industries and suppliers.

3. EMPLOYMENT AND EARNINGS CHANGES: 2006 - 2007

Since the RIMS multipliers were calculated for change in output, earnings and employment from 2006 to 2007, it is useful to examine the change in the leading Piedmont mega-region manufacturing industries for these same years to provide a detailed assessment of change and related multiplier impacts. Only five of the industries included in the BEA definition of furniture manufacturing generated significant employment in the Piedmont mega-region during this time period: Upholstered Household Furniture manufacturing, Non-Upholstered manufacturing, Wood Office Furniture manufacturing, Showcases, Partitions, Shelving, and Locker Furniture manufacturing, and Mattress manufacturing. Appendix Three provides a breakdown of the spatial distribution of these jobs and wages by county and major industry in 2006 and 2007.

These five leading furniture manufacturers generated 30,958 jobs in the Piedmont mega-region in 2007 compared to 34,694 jobs in 2006 – a loss of 3,736 jobs in just one year (Table 8). When factoring in the Direct Effect multiplier impact, an additional 4,208 jobs were lost during the same time period.

Table 8. Employment Direct Effect Multipliers by Industry in the Piedmont mega-region, 2006-2007

Furniture Industry by NAICS	2006	2007	Employ Change	Direct Effect Multiplier	Direct Effect Change
337121 – Upholstered household	21863	20106	-1757	2.2617	-3974
337122 – Non-Upholstered	7974	6431	-1543	1.9532	-3014
337211 – Office	1204	839	-365	2.0529	-749
337215 – Showcases, partitions etc	2909	2911	2	1.7464	3
337910 – Mattress Manufacturing	744	671	-73	2.8916	-211
TOTAL	**34,694**	**30,958**	**-3,736**	**-**	**-7944**

In 2007, the total wage bill for these same furniture manufacturers was $951 million – a decrease of $70.3 million from the previous year (Table 9). The total wage bill was $1.02 billion in 2006. It is likely that these wage cuts generated another $161.5 million in wage losses in the earnings of households employed by all industries.

Overall, it is clear that given the high level of integration of the furniture manufacturing industry in the Piedmont mega-region, this sector has significant impacts on the performance of the broader regional economy. Significant job and earnings losses in the furniture manufacturing industry have a profound ripple effect, and substantially impact the overall quality of life of the region.

Table 9. Earnings Direct Effect Multipliers by Industry in the Piedmont Mega-region, 2006-2007 (Annual Wages - $ millions)

Furniture Industry by NAICS	2006	2007	Earnings Change	Direct Effect Multiplier	Direct Effect Change
337121 – Upholstered household	660.21	631.99	-28.22	2.4589	-69.39
337122 – Non-Upholstered	227.23	194.32	-32.91	2.1661	-71.29
337211 – Office	37.98	28.578	-9.4	2.0888	-19.64
337215 – Showcases, partitions etc	72.14	74.23	2.096	1.8574	3.89
337910 – Mattress manufacturing	23.89	22.03	-1.854	2.7167	-5.04
TOTAL	**1021.4**	**951.15**	**-70.29**	**-**	**-161.47**

STRATEGIC OPPORTUNITIES AND BEST PRACTICE IN THE PIEDMONT MEGA-REGION

North Carolina's internationally prominent furniture industry experienced a period of Darwinian "winnowing" since the 1990s. Asian producers of furniture – largely Chinese, now diversifying into Vietnam and other Southeast Asian locales - captured the lower cost end of the American furniture industry due to far lower labor costs and a reasonable product quality given the price difference. North Carolina companies who best survived the creative destruction of these foreign competitive forces frequently adopted particular elements of best practice process innovations such as lean manufacturing. These companies better targeted their products for tightly focused, largely high-quality custom niches. Some companies diversified to add a product line utilizing overseas labor in addition to their established American-made lines. Others utilized sophisticated internet based software to manage production capacity overseas as well as drawing on localized non-production but furniture related talent such as designers. Others retained major upgraded production facilities headquartered in North Carolina.

The methodology for constructing a qualitative assessment of the state of North Carolina's furniture industry relied on over 30 interviews with individuals in six major categories: Broad-woven Fabric Mills (NAICS 31320), Architectural woodwork and cabinetry (NAICS 337110), Upholstered household furniture (NAICS 337121), Nonupholstered wood furniture (NAICS 337122), Institutional and office furniture (NAICS 337127, 337211-4), and Designers (NAICS 5414). The number of companies in each category ranged from four to eight industry leaders, largely recommended by industry experts (see Appendix Four). Since upholstered furniture is the largest segment by number of employees in the North Carolina furniture industry, more companies were represented in this category. Architectural woodwork and cabinetry is a highly customized component comprised of many small companies, as is the "designer" category, so fewer were interviewed in those segments.

In each category, interviews effectively capture the state of activity in the sector. The exact companies and individuals spoken with reflected recommendations from industry leaders and personal connections. In most cases the factories were visited by the author, and/or contacts were interviewed in person. Interviews ranged from 30 minutes to an hour in length. Each interviewee is gratefully acknowledged and thanked for contributing their time to this endeavor in Appendix Four.

Questions focused on three basic themes:

1. How does the company's location in North Carolina affect its competitiveness?
2. What links among the production chain elements exist and how do they affect its competitiveness?
3. What innovations were adopted, with what affects, and what recommendations could be made for changes to improve competitiveness?

The following sections consider each industry sector separately, with a brief summary conclusion concerning the industry outlook as seen by participants. A Best Practice company is profiled more fully in each major segment in order to illustrate general points highlighted elsewhere. Comments in the following sections are based on observations by interviewees, tallied for frequency of responses to emphasize points made most often.

A. BROAD WOVEN FABRIC MILLS

The story of furniture fabric mills resembles the fate of wood furniture manufacturing and the success strategies of the industry leaders. As the largest remaining broadloom manufacturer in the U.S., Valdese Weavers supplies fabric for upholstered furniture in a very large, highly automated facility with cutting-edge technology in western North Carolina. Attention to market niche focus – again, the high end, customized, rapid delivery customer demand – assisted the survival of Valdese in the face of the demise of other giants formerly in this field. A lack of local yarn suppliers is a missing link in the production chain. Survival threats have prompted both re-verticalization (acquiring companies that were suppliers to ensure continuity) and redundancy (contracting with multiple suppliers to assure product flow) which has, in turn, promoted an agglomerated cluster of firms in close proximity to the plant. The presence of Valdese in North Carolina is a major locational factor for a number of furniture companies interviewed who are involved with upholstery production.

B. ARCHITECTURAL WOODWORK AND CABINETRY

Architectural Woodwork and Cabinetry thrives through highly individuated customization of their products. A shift from the residential market, following the recent major housing construction downturn has rewarded some nimble firms. The large number of small, highly localized producers makes these firms sensitive to local demand conditions and difficult to challenge by non-local (especially overseas) manufacturers. Skilled craft labor in this field is highly abundant.

C. UPHOLSTERED FURNITURE

Upholstered furniture continues to be North Carolina’s predominant manufacturing segment. The state’s image as a furniture center draws related companies here according to some furniture leaders. “Upholstery is North Carolina”, declared one local national brand manufacturer with headquarters elsewhere. This company recently acquired a prominent old case goods firm that they will update with lean manufacturing practices. The successful conversion of this new firm could be a test case for extending process innovations throughout the main plant. Implementation of these process efficiencies is aided by several North Carolina consulting centers that specialize in the furniture industry. Wider knowledge of the time and cost savings such changes portend, was felt to be important for the health of the North Carolina furniture industry. The current economic downturn was also seen as a particularly good time to position remaining companies for the anticipated recovery. Some individuals indicated that increased demand with fewer companies available to supply production could present expansion opportunities. Reluctant non-adopters of such innovations claimed time exigencies prevented implementation, while others said that a step-by-step approach was quite do-able as a learning move in the right direction.

Although the labor base is experiencing “attrition by aging”, it is still in place in all categories as needed by companies. Skilled workers experienced in the swift and demanding tasks involved in custom upholstery – from folding pleats to applying tacks, or sewing and stuffing various shapes of cushions – were in good supply at both hourly and piecework facilities. Skepticism concerning the future of the furniture industry in North Carolina existed, but a lack of jobs in other areas for which skilled furniture workers have been retrained limits options for this labor base. Several interviewees expressed the view that it is better to retain than retrain workers at additional government expense. They advocated that government policies should include offering a bridge loan to encourage entrepreneurial preservation of a productive and potentially profitable part of a business so it could remain in North Carolina. A mixture of large and small size upholstery firms do seem to engage in partnerships with other furniture manufacturers located within the state Piedmont mega-region industry cluster. Several companies mentioned doing work with and featuring the output of a particular small and nimble High Point firm (Pearson), and use fabric produced by a major state jacquard broadloom manufacturer (Valdese). Local foam suppliers enable just-in-time deliveries within each cluster.

D. WOOD HOUSEHOLD FURNITURE

Wood Furniture, also known as case goods, is the segment most impacted by competition from Asian (principally Chinese) manufacturers. The companies interviewed in this sector displayed a variety of best practice responses to the competitive challenge, indicating that targeted high quality niches plus world-class process improvements can lead to retention of even this segment in its traditional North Carolina location. Some indicated that environmental legislation squeezed some no longer active producers, but highly skilled finishing workers still worked in North Carolina plants using custom applications.

Two large firms personified adaptations of Lean Manufacturing (seen as “a matter of survival” by numerous adopters) for high quality customized lines (Hickory Chair and Century). They drew on local North Carolina supplier networks sufficient for their just-in-time rapid production needs, including cushions, hardwood, finishers, textiles, and designers. “Branding and logistics” was seen as a needed future concerted move for improving market prospects targeted to promote location-sensitive purchases. Of the Triad companies that were interviewed, one was an entrepreneurial buy-out from a larger merged firm that absorbed the most skilled employees of a closed firm to create a reinvigorated entity with its own showroom and web presence based on “Made in North Carolina” appeal. Others located global headquarters here for the North Carolina furniture image and availability of technology savvy workers, but manufactured overseas for labor cost savings important to their price-sensitive market. All segments of the furniture price and quality continuum found North Carolina a good location.

E. INSTITUTIONAL AND OFFICE FURNITURE

Institutional and Office furniture is a profitable part of the furniture industry, as profiled in a recent Associated Press article on the seeming resurgence of U.S. manufacturing that profiled Legacy Furniture Group in Conover, NC. Key market segments in the healthcare industry and institutional facilities, as well as government contract connections that promote Made-in-America producers, carry successful firms in this niche through recessionary downturns in other segments such as the entertainment and hospitality industry. The “laboratory apparatus and furniture” segment has been largely subsumed into this category, and provides a profitable market as hospitals (such as the Veteran’s Administration facilities) and geriatric care facilities expand to anticipate increasing demand. Other profitable market segments are in supplying customized office/ cubicle needs. The locational advantages of North Carolina include transportation and logistics infrastructure as well as supplier proximity that fit just-in-time efficiencies. According to some observers, lean manufacturing practices distinguish industry leaders in North Carolina. Company locations in several cases indicate a succession of different furniture niches – in one instance with an institutional furniture maker taking over from an unsuccessful case goods manufacturer while others have expanded their facilities to larger quarters vacated by a less successful firm.

F. DESIGNERS

Designers are a small but vital component in the textile/upholstery business. The American Society of Furniture Designers (ASFD), headquartered in North Carolina, sprouted from a recently defunct Michigan-based organization. The relocation of ASFD is indicative of the geographic succession in the furniture industry as a whole. The current president of ASFD is one of its founding members and he suggested that designers are drawn here since “North Carolina is historically the Furniture Capital”, and many furniture finishing firms remain here as well. Although designers also fly to and do work with Asian producers, a slight increase in business moving back to the U.S. prerecession had been observed. This creative segment of the furniture industry also produces furniture related press releases, logos, catalog copy, and other promotional aids. These products could assist the "branding" need identified by another interviewee in order to promote a "Made in North Carolina" image. More designers exist in the High Point region than are accounted for by national statistics or organizational membership figures, since a separate BEA category is lacking and many are single or small firm entrepreneurs. While players have changed due to mergers, acquisitions, and off shoring of firms, the design survivors largely are connected to the industry by longstanding generational ties, linked to others by networked personal relationships promoted by cluster proximity.

G. CURRENT OVERALL STRENGTHS OF NORTH CAROLINA FURNITURE INDUSTRY

Based on a summation of the interviews conducted with those individuals listed in Appendix Four, the following strengths and trends emerged in the North Carolina furniture industry:

- "Companies are investing in North Carolina and growing, increasing market share, riding it out and improving". This is a good time for the acquisition of weaker firms to augment stronger firms by re-verticalizing with supplier acquisitions, firms adding machinery and space for factory expansion/consolidation less expensively due to the exit of other less successful firms in the furniture industry.

- "Major supply chain sources are still here: machinery, materials, labor, technology is still rooted here"; This is a good time to learn, convert to new innovations such as lean manufacturing so firms are ready to efficiently expand capacity when orders increase during the eventual economic recovery.

- Valdese is the "world's biggest decorative mill, one of the top 10 most advanced textile makers in the world", and a prime supplier for upholstered furniture manufacturers – especially with the recent demise of other domestic US high quality/quantity textile manufacturers;

- Everyone has a "sense of urgency" regarding delivery time, so "US Made" is best. The North Carolina location is a prime factor for furniture since it is "within the shipping lanes" for logistics from the Caribbean and the U.S. East Coast population centers;

- New markets are emerging in locations of new wealth that lack their own domestic furniture production capacity; they seek home décor and furniture acquisitions based on Made in the U.S. models for reasons of prestige. Firms should target areas that require the high quality customization offered by North Carolina firms, including the Middle East, Russia, parts of Europe, England, Australia, and Latin America (e.g., Brazil).

- There is an agglomeration-promoting “captive workforce” in labor for furniture, so firms should literally capitalize on the current abundance of skills in the North Carolina furniture cluster. In short, “Don’t write us off! We’re very passionate about our work. Cut us open and we bleed sawdust” proclaimed one employee at a leading firm.

- “Innovation can take place anywhere on the chain!”, so need to leverage local assets by assisting companies in the North Carolina cluster to communicate more among themselves; they can assist each other by supplying useful information such as which firm produces a needed part, and can also inspire each other with examples of practices that improve performance.

H. BEST PRACTICE PROFILES FROM THE PIEDMONT MEGA-REGION

The following companies were chosen to profile some of North Carolina’s finest examples of furniture firms in their respective sector. They were frequently mentioned by other companies interviewed as reliable suppliers, models in their area, and/or impressed the interviewer on a factory visit for their implementation of innovations worthy of emulation by other firms. The order of firms listed follows numerically from the NAICS codes for their sector, as done in the earlier narrative section.

1. BROADLOOM FABRIC MILL: VALDESE WEAVERS – BURKE COUNTY

Located in Valdese, a small town in northwestern North Carolina close to Morganton, Valdese Weavers’ highly automated facility is the largest broadloom textile producer in the U.S., and one of the largest in the world. Its high quality organization achieved a ranking of ISO 180, distinguishing it for outstanding and dependable performance. Begun 75 years ago, Valdese took off in the 1980s by catering to the upholstery market, added finishing capability by the year 2000, and is affiliated with Shuford’s Century furniture family. Valdese produces over 80,000 active patterns with around 900 employees, utilizing state of the art machinery to respond to custom requests at various production scales. Many parts of their production chain are performed in-house for reliability of supply, speed and quality. The company credits its success, in the face of competitors’ demise, to service, quality, and customization. They confidently see companies investing in North Carolina, emphasizing the need for creativity as well as foresight and rapid response to market demands.

2. UPHOLSTERED FURNITURE: KEY CITY – WILKES COUNTY

Northwestern North Carolina's Wilkes County capital of Wilkesboro's largest furniture manufacturer, Key City lies just outside the main furniture cluster in Hickory. It recently expanded into a much larger facility to handle its increased business, and is in the process of combining the two facilities under one roof. Key City is also implementing Lean Manufacturing processes, seen as a key to continued prosperity, guided by a local furniture industry consultant. The innovation was introduced and promoted by a plant manager who saw it in operation at several previous employment locations. Other factors for Key City's success are good access to interstate highways, a talented workforce, and locally available material from hardwood to textiles. Key City maintains a focus on a custom niche with an upscale clientele that prioritizes quality, rapid response, and design elements that are best addressed by domestic production.

3. WOOD FURNITURE: HICKORY CHAIR – CATAWBA COUNTY

Located in the hardwood heartland of western North Carolina, Catawba County's Hickory Chair is the only facility in the state to combine the manufacture of case goods and upholstered furniture under one roof. Under President Jay Reardon, Hickory was an early adopter of Lean Manufacturing, a production process it modified from the Toyota Production System to make its own system called EDGE: Employees Dedicated to Growth and Excellence. This approach stresses efficiencies from a 'team building' linking of suppliers, employees, and customers. Conglomerate head Furniture Brands International noted Hickory's distinctive profit profile in the face of general downturns and encouraged its other affiliates to adopt similar procedures.

Hickory is noted for its high quality and customization, rapid response and delivery, and dedication of its workforce to their craft. The large facility follows green practices by utilizing scrap wood for fuel, natural light through wide windows, and utilizes a combination of cutting edge computerized machinery with hand crafted procedures. Its "Hickory Chair University" is a two-day event featuring an in-depth plant tour, discussions with workers and managers, and solicitation of advice from attendees that is designed to teach, practice and foster understanding of the quality practices behind the price of Hickory Chair products. The company seeks to familiarize attendees (primarily retailers) with its practices and disseminate information to maintain its competitiveness.

4. INSTITUTIONAL FURNITURE: LEGACY FURNITURE GROUP – CATAWBA COUNTY

Featured in an Associated Press article illustrating signs of American manufacturing's post-recession recovery, Hickory's neighbor in Catawba County is Conover's major furniture maker. Legacy combines a skilled workforce with cutting-edge machinery that it manufactures in-house. Similar to other survivors, Legacy acquired less successful firms and top employees to strengthen its own position, adding to its knowledge and skill base. A market diversification from residential to hospital and health-related products utilized flexible manufacturing and customizable machinery to respond to new niche needs. The Conover community, similar to the situation in California's high technology cluster in Silicon Valley during an earlier downturn, supported its major furniture company with incentives and other targeted assistance through the transition period to its new poster status as a manufacturing Best Practice example.

5. OFFICE FURNITURE: STEELCASE – GUILFORD COUNTY

Located in the Piedmont Triad "Furniture City" of High Point, Guilford County's Steelcase utilizes its adaptation of Lean Manufacturing from the shop floor reaching out to suppliers. A regional branch of one of the Big Three office firms from Michigan that has been in North Carolina for a quarter century, Steelcase makes products for the office, institutional and hospitality market that combine practicality and fashion with high quality standards. Typical of the merger and acquisition practices characteristic of companies in the current stage of the domestic furniture industry, Steelcase acquired two other firms to form a design group to give its product a high fashion cutting edge quality. Steelcase plants focus on a core competency in one product area, then distribute to customers from a consolidated node. Highly efficient customization keeps delivery under six weeks, with close monitoring of inputs for cost control. Access to highways, a large talent base and major supply chain components support Steelcase's successful business model in its North Carolina location.

6. FURNITURE DESIGN: THE PHILLIPS COLLECTION – GUILFORD COUNTY

The creative talent of furniture designers is highly concentrated in the Piedmont Triad around High Point, North Carolina. The Phillips Collection, a furniture design, wholesale, and importer of furniture and decorative accessories, relocated to the Triad from the New York City area to take advantage of the lower cost structure, logistics, and "confluence of significant manufacturing intelligence" concerning furniture. The owner's son was recently the youngest recipient of the coveted Best Accessory Designer award from the national "Art of Design" organization. As in the days when it first became a furniture town, the diversity of creative skills – from finishers to photographers and copy designers – make High Point the organizational and professional heart of the broader industry which draws on their skills and in turn draws furniture professionals to this cluster location. According to President Mark Phillips, High Point is a "3-D" location for Design (concentration), Display (four times the floor space of Las Vegas market), and Distribution (unrivalled).

7. INTERNATIONAL CONGLOMERATE: HOME MERIDIAN – GUILFORD COUNTY

Created after the merger of four companies in the year 2006, Home Meridian moved to an office park with other furniture companies close to the regional airport at the edge of Greensboro and High Point. Half of Home Meridian's production takes place in Dongguan, the center of China's factory and furniture production on the outskirts of

Guangdong and the harbor of Hong Kong. Other facilities are located in emerging Asian production sites from Viet Nam to Indonesia. The trajectory of the company's parent followed the outsourcing migration to Taiwan in 1990 and to mainland China a decade later. With mottos such as "Create the future, not protect the past", this "global information company" is a "student of lean", using cutting edge software and web-based collaboration systems to integrate their vertically complex organization. Their U.S. headquarters is in the Piedmont Triad due to its association with the furniture image and Market, drawing on technology-savvy local labor to staff their computer coordination, and local design talent to re-image their products.

I. FUTURE RECOMMENDATIONS

Steps highly recommended by furniture industry leaders include the following, largely quoted to maintain the accuracy and flavor of their remarks:

- "Continuity . . . personal relationships . . . [and] social networking are vital and work to keep the North Carolina cluster THE place to be", but the two North Carolina clusters in the central Piedmont and western part of the Furniture Foothills are "not overly integrated . . . High Point has the technology side of the spectrum", with the Hickory-centered side a craft skilled but less educated workforce. An integration of these two clusters would add a needed synergy for information sharing and coordinating a North Carolina furniture strategy.

- An <u>internet "Information Exchange Center</u>" would be very useful for a variety of purposes: cross-pollination of non-proprietary information such as what suppliers locally can provide, the best way to ship items, what finishings are available, green practices, dissemination of Best Practice and Green training, and experiences/ opportunities, from grants available to industry events.

- A free, downloadable "APP" (computerized software application for mobile communication devices) could feature North Carolina furniture and High Point Market facilities. This type of readily available and widely distributable communication says the featured site (North Carolina furniture industry) is savvy, operating at the cutting edge to reach a wide market (example: the Las Vegas Market app purportedly received wide distribution on Iphone). Visibility driven by creative leadership key for branding locale.

- According to several interviewees, the "future of domestic furniture is in <u>branding and logistics</u>". These areas are not a proficiency of furniture manufacturers but could usefully be promoted by an industry agency or with government support. One company president articulated the position that the furniture industry "for too long played defense" so there is a "need to turn the tables and play offense and market loudly". Examples of areas that could readily profit from improvements include focusing on domestic cutting edge quality and quick service as suggested below through adopting Best Practices models and showing examples of continued North Carolina furniture distinction.

- Companies should be encouraged to "focus on "core competency", innovate via "contagious diffusion", as "innovation needs to be the Next Big Thing"; Information about processes such as Lean Manufacturing should be featured by profiling successful companies so others could gradually implement these measures to achieve statewide success.

J. GENERAL OBSERVATIONS BY INTERVIEWEES

Notes from interviews were organized in a matrix reflecting major lines of inquiry. Similar comments were numerically tallied to yield the following most frequently occurring observations:

- The two clusters (Hickory-High Point) seldom communicate, but draw on some similar suppliers (e.g., foam, fabrics, shippers); labor is somewhat differently concentrated (upholstery, technical skills in High Point area, wood working and craft skills in Hickory); Communication occurs among companies through new employees and shared suppliers.

- Firms are becoming more vertical; driven by a concern that supply chain weakness might develop (e.g., raw yarn) as suppliers demise, sometimes suddenly; firms tend to use their own trucks to ship for dependability of control, but also like the furniture logistics capacity available;

- Outsourcing pressure forcing niche divide: 1) US made highly customized, service locally available, faster delivery time, higher quality and price; major pressure on labor cost and quality; market for US made developing in China (Model T labor-market relationship); at least a line made overseas provides profitability to maintain domestic producers; outsourcing runs IP risk, reliability risk; 2) lower end goods chase dependable (relatively) low labor locations (Asia), rely on high tech coordinated in-firm logistics, communication;

- Economic downturn frequently seen as an opportunity time to get more efficient: institute Lean Manufacturing to save time, purchase e-bay woodwork machinery, also acquire other companies and employee cherry-picking to broaden line (add upholstery, wood, motion line, upscale) to utilize retail network;

- Retail outlets shifting rapidly due to downturn, so compensate with new outlets;

- Need to "know your market" in order to produce and price accordingly; key components are custom, quality, and long-term investment savings;

- High Point Market is seen as viable and vital to North Carolina core furniture industry maintenance; it concentrates the furniture cluster, and is a publicity lighthouse;

- Labor is ageing but currently plentiful due to plant closures; apprentices are welcome for new blood in next generation; Designers are seen as location free or used in-house; locally tied core of the furniture industry are production people;

- Change agents are usually those who have worked in various plants, and see the difference made by Lean Manufacturing type programs; most companies are aware of Lean Manufacturing, but are unclear about what it takes to retool, which could be a more gradual, less expensive process than some might think; promoters of change feel such innovations are crucial for U.S. industry survival in the coming recovery. Lean practices go beyond cells structured in yellow floor paint and are not a panacea for rescuing floundering firms. They should showcase efficiency, quality and morale boosting team problem solving mechanisms as well. Transformation consultants are in demand, from state university extension agents to individual entrepreneurs such as former corporate employees with a deep understanding of industry practices.

CONCLUSION AND IMPLICATIONS: THE PIEDMONT FURNITURE MEGA-REGION AND THE STATE OF NORTH CAROLINA FURNITURE INDUSTRY

Although the furniture industry in North Carolina experienced significant turbulence over the past decade, the industry remains a major pillar of manufacturing in North Carolina. Broadly speaking, the furniture value chain has a geographic footprint that extends throughout the entire state. With over 62,000 jobs that stretch from Murphy to Manteo, furniture remains one of the state's most important industry clusters generating a total wage bill of $2.4 billion in 2008.

That said, the furniture industry is disproportionately concentrated in the Piedmont mega-region that straddles the Interstate 40 corridor in central North Carolina, with major company concentrations in both the Piedmont Triad and Unifour regions . The Piedmont Furniture mega-region accounted for well over half of all furniture jobs in the state, almost equally split between the Piedmont Triad and Unifour region. Both sub-regions are composed of complementary specializations that reflect regional strengths. The Unifour region is heavily concentrated in upholstered household furniture manufacturing while the Piedmont Triad is a more diversified cluster with strengths in retail, manufacturing, wholesaling and design. Other key furniture markets included Charlotte and Raleigh although both tended to specialize in more "downstream" furniture-related activities such as retail, wholesaling and design.

The RIMS multiplier analysis suggested that the Piedmont mega-region is well integrated into the overall regional economy with substantive links to a wide variety of suppliers and related industries. For example, each additional dollar of earnings paid directly to households employed by the Piedmont mega-region furniture manufacturing industry will generate an additional $2.32 in the earnings of households employed by all industries. Furthermore, some of the highest employment and earnings multipliers are for upholstered furniture manufacturing and mattress manufacturing which feature prominently in the Piedmont mega-region. Consequently, the recent furniture job losses are likely to have caused a significant ripple effect on the regional economy and negatively impacted the overall quality of life in the region. The depth of this interrelationship accentuates the importance of stabilizing and nurturing this industry.

Previous studies suggested that North Carolina should not give up on its traditional industries but instead figure out how industries like furniture might best adapt to new economic realities. Following the "one-two punch" of outsourcing and recession, many of the furniture industry firms that remain in North Carolina are becoming more competitively grounded in Lean Manufacturing practices. Based on a series of interviews with furniture industry leaders from across the region, we have identified several strategies that may be able to elevate the North Carolina furniture industry.

It is clear that better regional cooperation and innovation are the keys to enhanced prosperity in the North Carolina furniture industry particularly in the Piedmont mega-region. Both the Triad and Unifour region have substantive furniture economies that still generate well over 20,000 jobs each. However, little evidence exists of coordinated action by either region to elevate the profile of the industry in the General Assembly or the Governor's Office. Several furniture executives suggested that an enhanced integration of the Unifour region and the Triad would add a needed synergy for information sharing and enable the coordination of a more competitive state-based furniture strategy. An internet-based information exchange center was touted as a way to fertilize the cross pollination of best practice production methods.

Some observers suggest that the overall health of the North Carolina furniture industry is in question since the industry seems unable to compete against countries where wages are considerably lower. This Report reflects a more positive assessment based on a comprehensive and rigorous analysis of the furniture industry. In the long run, foreign countries like China will not be able to maintain their wage advantage as rising standards of living will narrow the pay gap and make it less lucrative to move furniture jobs there.

Second, overseas furniture production may be a preferred approach for standardized, mass-produced furniture products but highly customized furniture and furnishings continue to require high levels of feedback and interaction with buyers. Although standardized components of the furniture industry value chain are likely to remain abroad, North Carolina firms can and are capitalizing on competitive strengths such as higher skill and broader choice in customization, lower delivery times, better service continuation, and brand reliability. The best practice furniture firms identified in this Report have all tended to be more specialized and customized, and each of these firms have utilized geographic proximity as a form of sustainable competitive advantage.

Third, the U.S. economy remains one of the most dynamic and flexible economic systems in the world, rewarding and encouraging innovation. If a better mousetrap is always going to be made, then furniture companies that are best able to create new furniture products and designs will be the firms that prosper over time. Companies like Hickory Chair, the Phillips Collection, Steelcase and Valdese Weavers provide contemporary exemplars of best practice innovation in the North Carolina furniture industry. Overall, the North Carolina furniture industry remains a key element of the state economy, and has retained all the critical components of the value chain necessary for it to remain a leader in Made in the U.S.A. furniture production.

APPENDIX ONE: FURNITURE DATA TABLES

Table 1. North Carolina Counties Ranked by Furniture Industry Employment, 2008

County	Employment	Establishments	Weighted Avg. Wages	Region
Catawba	10,870	230	31,661	Charlotte
Guilford	9,388	476	39,654	Piedmont Triad
Randolph	5,454	100	28,113	Piedmont Triad
Mecklenburg	4,884	450	34,736	Charlotte
Wake	3,661	378	30,870	Triangle
Caldwell	3,433	68	28,579	West
Alexander	3,034	35	29,304	Charlotte
Burke	2,793	59	35,588	West
Davidson	2,576	116	29,256	Piedmont Triad
Surry	1,359	24	24,215	Piedmont Triad
Forsyth	1,234	118	31,713	Piedmont Triad
Buncombe	888	116	30,348	West
Montgomery	809	18	20,880	Piedmont Triad
Cumberland	782	83	30,531	Southeast
Gaston	775	54	28,677	Charlotte
New Hanover	730	109	27,143	Southeast
Durham	665	79	27,774	Triangle
Richmond	656	11	26,511	Southeast
Alamance	652	47	27,318	Piedmont Triad
Wilkes	601	11	28,091	West
Iredell	481	62	28,165	Charlotte
Johnston	467	32	25,850	Triangle
Onslow	460	31	23,012	East
Stanly	404	29	32,615	Charlotte
Pitt	392	55	22,536	East
Rockingham	392	25	25,504	Piedmont Triad
Orange	357	42	33,169	Triangle
Union	346	41	30,906	Charlotte
Cleveland	322	26	28,203	Charlotte
Cabarrus	321	42	23,521	Charlotte
Chatham	255	21	30,204	Triangle
Moore	251	41	22,390	Triangle
Wilson	234	35	23,357	East
Rowan	231	32	28,308	Charlotte
Wayne	227	31	23,931	East
Watauga	214	43	23,733	West
Robeson	213	12	33,116	Southeast

Craven	205	28	25,240	East
Henderson	205	40	24,281	West
Sampson	203	15	24,979	Southeast
Nash	188	27	21,554	East
Macon	186	31	27,233	West
Carteret	184	35	26,992	East
Brunswick	167	36	25,704	Southeast
Dare	142	22	33,690	Northeast
Haywood	127	23	27,928	West
Cherokee	121	20	22,958	West
Harnett	108	17	33,826	Triangle
Vance	97	6	27,128	Triangle
Lenoir	93	12	40,307	East
Lincoln	74	16	76,567	Charlotte
Duplin	66	9	22,234	East
Pasquotank	61	9	28,352	Northeast
Halifax	54	10	22,318	Northeast
Alleghany	53	5	19,965	West
Beaufort	53	11	19,291	Northeast
Rutherford	52	13	19,147	West
Lee	49	10	28,614	Triangle
Jackson	44	14	24,771	West
Edgecombe	38	6	21,214	East
Davie	37	5	25,992	Piedmont Triad
Avery	32	7	35,819	West
Currituck	27	4	19,159	Northeast
Ashe	26	7	18,155	West
Columbus	26	4	19,129	Southeast
Granville	23	4	25,364	Triangle
Washington	22	3	23,743	Northeast
Stokes	19	3	22,217	Piedmont Triad
Martin	14	3	22,099	Northeast
Pender	8	5	14,447	Southeast
NC Total	76,193	4,215		
NC Average			36,766	

Table 2. North Carolina Counties Ranked by Broad-woven Fabric Mills (NAICS 313210), 2008

County	Employment	Establishments	Avg. Wages	Region
Burke	1,191	6	36,520	West
Guilford	1,161	11	49,656	Piedmont Triad
Richmond	625	3	26,606	Southeast
Surry	600	3	25,578	Piedmont Triad
Alamance	309	5	25,804	Piedmont Triad
Cleveland	202	3	31,438	Charlotte
Gaston	62	3	43,392	Charlotte
Alexander	ND	ND	ND	Charlotte
Anson	ND	ND	ND	Charlotte
Buncombe	ND	ND	ND	West
Cabarrus	ND	ND	ND	Charlotte
Davidson	ND	ND	ND	Piedmont Triad
Davie	ND	ND	ND	Piedmont Triad
Forsyth	ND	ND	ND	Piedmont Triad
Granville	ND	ND	ND	Triangle
Halifax	ND	ND	ND	Northeast
Henderson	ND	ND	ND	West
Hoke	ND	ND	ND	Southeast
Iredell	ND	ND	ND	Charlotte
Lee	ND	ND	ND	Triangle
McDowell	ND	ND	ND	West
Moore	ND	ND	ND	Triangle
Orange	ND	ND	ND	Triangle
Person	ND	ND	ND	Triangle
Polk	ND	ND	ND	West
Randolph	ND	ND	ND	Piedmont Triad
Rockingham	ND	ND	ND	Piedmont Triad
Rutherford	ND	ND	ND	West
Scotland	ND	ND	ND	Southeast
Wilson	ND	ND	ND	East
Yancey	ND	ND	ND	West
NC Total	7,242	69		
NC Average			34,301	

Table 3. North Carolina Counties Ranked by Household and Institutional Furniture and Kitchen Cabinet Manufacturing (NAICS 3371), 2008

County	Employment	Establishments	Avg. Wages	Region
Catawba	9,350	112	32,047	Charlotte
Randolph	4,169	46	28,248	Piedmont Triad
Alexander	2,837	23	29,578	Charlotte
Guilford	2,795	68	33,257	Piedmont Triad
Caldwell	2,589	27	28,475	West
Davidson	1,669	41	28,478	Piedmont Triad
Burke	1,452	22	35,491	West
Wake	908	44	29,033	Triangle
Surry	679	7	23,030	Piedmont Triad
Montgomery	650	9	19,759	Piedmont Triad
Mecklenburg	588	35	44,306	Charlotte
Wilkes	582	8	28,362	West
Gaston	537	17	29,576	Charlotte
Rockingham	302	9	25,745	Piedmont Triad
Iredell	210	14	25,482	Charlotte
Chatham	192	12	27,444	Triangle
Stanly	173	12	33,913	Charlotte
Johnston	160	9	30,929	Triangle
Sampson	147	8	25,940	Southeast
Forsyth	115	10	31,832	Piedmont Triad
Rowan	108	10	24,868	Charlotte
Alamance	94	9	26,432	Piedmont Triad
New Hanover	92	13	37,067	Southeast
Wilson	88	10	29,727	East
Watauga	81	7	27,670	West
NC Total	35,241	806		
NC Average			30,232	

Note: The following counties either reported less than 81 jobs in this industry or data was withheld for non-disclosure reasons: Orange, Alleghany, Durham, Cumberland, Buncombe, Henderson, Moore, Harnett, Craven, Cherokee, Beaufort, Macon, Wayne, Nash, Carteret, Stokes, Halifax, Brunswick, Onslow, Pitt, Ashe, Anson, Avery, Bladen, Cabarrus, Caswell, Clay, Cleveland, Columbus, Currituck, Dare, Davie, Duplin, Edgecombe, Franklin, Graham, Granville, Greene, Haywood, Hoke, Jackson, Jones, Lee, Lenoir, Lincoln, Madison, McDowell, Mitchell, Pasquotank, Pender, Perquimans, Person, Polk, Richmond, Robeson, Rutherford, Scotland, Transylvania, Union, Vance, Yadkin, Yancey

Table 4. North Carolina Counties Ranked by Kitchen Cabinet, Bathroom Vanity and Countertop Manufacturing (NAICS 337110), 2008

County	Employment	Establishments	Avg. Wages	Region
Wake	845	35	28,600	Triangle
Mecklenburg	320	25	43,632	Charlotte
Johnston	160	9	30,929	Triangle
Stanly	153	9	36,453	Charlotte
Gaston	92	9	29,746	Charlotte
Iredell	90	10	26,327	Charlotte
Wilson	84	9	29,980	East
New Hanover	70	9	38,783	Southeast
Forsyth	57	5	33,875	Piedmont Triad
Cumberland	50	9	30,256	Southeast
Wilkes	50	3	32,925	West
Sampson	48	5	26,658	Southeast
Buncombe	37	11	29,431	West
Cherokee	36	3	22,904	West
Durham	34	3	52,909	Triangle
Harnett	32	3	31,343	Triangle
Craven	31	5	29,785	East
Rowan	30	6	32,005	Charlotte
Alamance	28	6	30,526	Piedmont Triad
Alexander	25	4	27,105	Charlotte
Chatham	23	6	29,039	Triangle
Macon	23	5	22,462	West
Carteret	19	5	39,530	East
Catawba	19	5	22,480	Charlotte
Henderson	19	4	33,799	West
NC Total	5,633	250		
NC Average			31,160	

Note: The following counties either reported less than 19 jobs in this industry or data was withheld for non-disclosure reasons: Stokes, Wayne, Lee, Cabarrus, Onslow, Orange, Pitt, Nash, Ashe, Rockingham, Brunswick, Moore, Alleghany, Anson, Avery, Beaufort, Bladen, Caldwell, Caswell, Clay, Cleveland, Columbus, Currituck, Dare, Duplin, Edgecombe, Franklin, Granville, Greene, Guilford, Halifax, Jones, Lenoir, Lincoln, Madison, McDowell, Montgomery, Pasquotank, Pender, Perquimans, Person, Polk, Randolph, Richmond, Robeson, Rutherford, Scotland, Surry, Transylvania, Union, Watauga, Yadkin

Table 5. North Carolina Counties Ranked by Upholstered Household Furniture Manufacturing (NAICS 337121), 2008

County	Employment	Establishments	Avg. Wages	Region
Catawba	8,345	88	32,551	Charlotte
Randolph	3,645	29	28,271	Piedmont Triad
Alexander	2,792	19	29,619	Charlotte
Guilford	1,800	32	32,648	Piedmont Triad
Caldwell	1,300	11	28,681	West
Burke	743	15	30,550	West
Montgomery	617	6	19,161	Piedmont Triad
Davidson	323	15	29,392	Piedmont Triad
Wilkes	214	3	26,473	West
Chatham	167	4	27,337	Triangle
Cleveland	ND	ND	ND	Charlotte
Edgecombe	ND	ND	ND	East
Gaston	ND	ND	ND	Charlotte
Haywood	ND	ND	ND	West
Iredell	ND	ND	ND	Charlotte
Lincoln	ND	ND	ND	Charlotte
Mecklenburg	ND	ND	ND	Charlotte
Mitchell	ND	ND	ND	West
Nash	ND	ND	ND	East
New Hanover	ND	ND	ND	Southeast
Robeson	ND	ND	ND	Southeast
Rockingham	ND	ND	ND	Piedmont Triad
Rowan	ND	ND	ND	Charlotte
Stanly	ND	ND	ND	Charlotte
Surry	ND	ND	ND	Piedmont Triad
Union	ND	ND	ND	Charlotte
NC Total	21,386	245		
NC Average			30,181	

Table 6. North Carolina Counties Ranked by Non-upholstered Wood Household Furniture Manufacturing (NAICS 337122), 2008

County	Employment	Establishments	Avg. Wages	Region
Caldwell	1,255	10	28,271	West
Catawba	937	15	28,058	Charlotte
Davidson	840	17	28,838	Piedmont Triad
Burke	704	5	40,723	West
Guilford	265	15	46,341	Piedmont Triad
Randolph	213	6	23,334	Piedmont Triad
Watauga	15	3	28,378	West
Wake	14	6	28,344	Triangle
New Hanover	12	3	33,502	Southeast
NC Total	6,521	143		
NC Average			29,349	

Note: The following counties either reported less than 12 jobs in this industry or data was withheld for non-disclosure reasons: Alamance, Alexander, Alleghany, Avery, Brunswick, Buncombe, Cabarrus, Chatham, Columbus, Craven, Dare, Davie, Durham, Forsyth, Gaston, Graham, Harnett, Haywood, Iredell, Jackson, Lee, Lenoir, Lincoln, Macon, McDowell, Mecklenburg, Montgomery, Moore, Nash, Orange, Pasquotank, Pender, Polk, Rockingham, Rowan, Rutherford, Sampson, Stanly, Surry, Union, Vance, Wilkes, Wilson, Yadkin

Table 7. North Carolina Counties Ranked by Institutional Furniture Manufacturing (NAICS 337127), 2008

County	Employment	Establishments	Avg. Wages	Region
Davidson	43	3	19,150	Piedmont Triad
Alamance	ND	ND	ND	Piedmont Triad
Buncombe	ND	ND	ND	West
Caldwell	ND	ND	ND	West
Davie	ND	ND	ND	Piedmont Triad
Forsyth	ND	ND	ND	Piedmont Triad
Guilford	ND	ND	ND	Piedmont Triad
Iredell	ND	ND	ND	Charlotte
Lenoir	ND	ND	ND	East
Person	ND	ND	ND	Triangle
Rockingham	ND	ND	ND	Piedmont Triad
Rowan	ND	ND	ND	Charlotte
Sampson	ND	ND	ND	Southeast
Wake	ND	ND	ND	Triangle
NC Total	392	20		
NC Average			28,428	

Table 8. North Carolina Counties Ranked by Office Furniture (Including Fixtures) Manufacturing (NAICS 3372), 2008

County	Employment	Establishments	Avg. Wages	Region
Randolph	1,011	20	28,107	Piedmont Triad
Catawba	929	42	29,167	Charlotte
Guilford	860	26	37,104	Piedmont Triad
Caldwell	664	11	29,128	West
Davidson	387	14	27,490	Piedmont Triad
Alexander	197	12	25,353	Charlotte
Stanly	191	8	32,466	Charlotte
Union	167	3	33,597	Charlotte
Mecklenburg	156	10	42,246	Charlotte
Montgomery	130	5	23,847	Piedmont Triad
Wake	115	11	44,271	Triangle
Orange	84	3	43,649	Triangle
Forsyth	61	4	35,549	Piedmont Triad
Burke	53	7	28,797	West
Iredell	52	4	32,806	Charlotte
NC Total	6,574	230		
NC Average			31,908	

Note: The following counties either reported less than 52 jobs in this industry or data was withheld for non-disclosure reasons: Alamance, Ashe, Beaufort, Buncombe, Cabarrus, Carteret, Caswell, Chatham, Chowan, Cleveland, Craven, Dare, Durham, Edgecombe, Franklin, Gaston, Granville, Henderson, Johnston, Lee, Lincoln, Macon, Martin, Mitchell, Moore, New Hanover, Pender, Richmond, Rowan, Rutherford, Surry, Watauga, Wayne, Wilson, Yadkin

Table 9. North Carolina Counties Ranked by Other Furniture Related Product Manufacturing (NAICS 3379), 2008

County	Employment	Establishments	Avg. Wages	Region
Guilford	945	10	40,828	Piedmont Triad
Cumberland	72	3	33,648	Southeast
Alamance	ND	ND	ND	Piedmont Triad
Catawba	ND	ND	ND	Charlotte
Davidson	ND	ND	ND	Piedmont Triad
Durham	ND	ND	ND	Triangle
Edgecombe	ND	ND	ND	East
Forsyth	ND	ND	ND	Piedmont Triad
Gaston	ND	ND	ND	Charlotte
Harnett	ND	ND	ND	Triangle
Mecklenburg	ND	ND	ND	Charlotte
Moore	ND	ND	ND	Triangle
Nash	ND	ND	ND	East
Randolph	ND	ND	ND	Piedmont Triad
Richmond	ND	ND	ND	Southeast
Rockingham	ND	ND	ND	Piedmont Triad
Union	ND	ND	ND	Charlotte
Wake	ND	ND	ND	Triangle
Yancey	ND	ND	ND	West
NC Total	2,845	43		
NC Average			44,662	

Table 10. North Carolina Counties Ranked by Furniture and Home Furnishings Merchant Wholesalers (NAICS 4232), 2008

County	Employment	Establishments	Avg. Wages	Region
Guilford	973	105	58,068	Piedmont Triad
Mecklenburg	608	64	49,406	Charlotte
Davidson	254	13	37,147	Piedmont Triad
Wake	236	24	48,707	Triangle
Forsyth	227	16	52,673	Piedmont Triad
Robeson	142	3	37,658	Southeast
Randolph	133	14	31,037	Piedmont Triad
Catawba	112	13	38,494	Charlotte
Orange	93	5	41,077	Triangle
Durham	80	4	48,435	Triangle
Iredell	73	9	39,941	Charlotte
Buncombe	50	5	29,933	West
Rowan	48	3	43,689	Charlotte
New Hanover	32	6	47,507	Southeast
Union	32	6	34,339	Charlotte
Moore	23	6	29,392	Triangle
Caldwell	20	4	23,152	West
Lincoln	17	3	143,962	Charlotte
Pitt	10	4	19,517	East
NC Total	4,057	391		
NC Average			47,583	

Note: The following counties either reported less than 10 jobs in this industry or data was withheld for non-disclosure reasons: Alamance, Alleghany, Anson, Ashe, Avery, Bladen, Brunswick, Burke, Cabarrus, Carteret, Clay, Cleveland, Columbus, Craven, Cumberland, Davie, Franklin, Gaston, Halifax, Harnett, Haywood, Henderson, Jackson, Johnston, Lee, Lenoir, Montgomery, Nash, Onslow, Pender, Richmond, Rutherford, Sampson, Scotland, Stanly, Surry, Watauga, Wayne, Wilkes, Wilson, Yadkin

Table 11. North Carolina Counties Ranked by Furniture Retail Stores (NAICS 4421), 2008

County	Employment	Establishments	Avg. Wages	Region
Guilford	1,597	95	36,153	Piedmont Triad
Mecklenburg	1,357	83	38,375	Charlotte
Wake	1,096	95	37,263	Triangle
Buncombe	400	40	33,942	West
Cumberland	318	30	32,593	Southeast
Catawba	302	33	30,222	Charlotte
Forsyth	276	32	35,333	Piedmont Triad
New Hanover	270	33	31,136	Southeast
Onslow	248	12	27,141	East
Pitt	210	20	22,310	East
Davidson	174	22	26,543	Piedmont Triad
Johnston	165	8	26,029	Triangle
Wayne	153	13	21,047	East
Caldwell	148	21	29,048	West
Alamance	132	14	34,624	Piedmont Triad
Durham	124	19	32,254	Triangle
Macon	124	12	28,561	West
Cabarrus	105	18	27,708	Charlotte
Brunswick	100	13	24,923	Southeast
Vance	97	6	27,128	Triangle
Gaston	94	15	23,215	Charlotte
Nash	91	11	23,808	East
Craven	88	10	26,229	East
Dare	81	11	37,870	Northeast
Haywood	81	12	30,699	West
NC Total	9,971	1,006		
NC Average			31,872	

Note: The following counties either reported less than 81 jobs in this industry or data was withheld for non-disclosure reasons: Iredell, Carteret, Cleveland, Surry, Robeson, Cherokee, Rockingham, Union, Sampson, Chatham, Henderson, Burke, Wilson, Lincoln, Rutherford, Pasquotank, Moore, Rowan, Harnett, Lenoir, Edgecombe, Davie, Halifax, Orange, Duplin, Lee, Watauga, Jackson, Montgomery, Currituck, Columbus, Stanly, Avery, Richmond, Granville, Washington, Wilkes, Ashe, Martin, Beaufort, Pender, Alexander, Anson, Bertie, Bladen, Caswell, Chowan, Clay, Franklin, Greene, Herford, Hoke, Hyde, Madison, McDowell, Mitchell, Perquimans, Person, Randolph, Scotland, Stokes, Transylvania, Warren, Yadkin, Yancey

Table 12. North Carolina Counties Ranked by Home Furnishings Retail Stores (NAICS 4422), 2008

County	Employment	Establishments	Avg. Wages	Region
Mecklenburg	1,895	153	23,114	Charlotte
Wake	1,084	127	24,122	Triangle
Guilford	688	71	25,531	Piedmont Triad
Forsyth	501	37	20,229	Piedmont Triad
Durham	368	32	19,218	Triangle
Buncombe	338	42	27,554	West
Cumberland	307	30	28,524	Southeast
New Hanover	292	39	21,279	Southeast
Cabarrus	210	21	21,542	Charlotte
Onslow	196	15	18,029	East
Pitt	154	23	22,760	East
Johnston	142	15	19,919	Triangle
Catawba	127	17	20,570	Charlotte
Moore	125	17	22,291	Triangle
Alamance	117	19	23,783	Piedmont Triad
Watauga	93	20	22,519	West
Henderson	87	18	19,642	West
Craven	80	12	22,601	East
Carteret	79	15	25,520	East
Nash	77	11	18,518	East
Gaston	74	13	17,645	Charlotte
Dare	61	11	28,139	Northeast
Union	58	14	34,097	Charlotte
Iredell	56	15	22,045	Charlotte
Orange	54	12	29,990	Triangle
NC Total	8,262	1,016		
NC Average			23,745	

Note: The following counties either reported less than 54 jobs in this industry or data was withheld for non-disclosure reasons: Lenoir, Wayne, Cleveland, Wilson, Brunswick, Randolph, Davidson, Macon, Duplin, Rowan, Harnett, Cherokee, Rockingham, Haywood, Burke, Beaufort, Pasquotank, Lee, Surry, Stanly, Caldwell, Chatham, Avery, Robeson, Richmond, Rutherford, Alexander, Alleghany, Ashe, Bladen, Camden, Clay, Columbus, Currituck, Davie, Edgecombe, Franklin, Graham, Halifax, Hertford, Jackson, Jones, Lincoln, Martin, McDowell, Mitchell, Montgomery, Pender, Perquimans, Person, Polk, Sampson, Scotland, Stokes, Swain, Vance, Warren, Washington, Wilkes, Yadkin, Yancey

Table 13. North Carolina Counties Ranked by Interior Design Services (NAICS 541410), 2008

County	Employment	Establishments	Avg. Wages	Region
Mecklenburg	192	78	43,167	Charlotte
Wake	143	46	33,543	Triangle
Guilford	105	44	35,182	Piedmont Triad
Forsyth	54	19	27,073	Piedmont Triad
Randolph	38	7	24,040	Piedmont Triad
New Hanover	32	13	31,730	Southeast
Wilson	32	4	50,156	East
Davidson	26	5	41,928	Piedmont Triad
Henderson	24	10	27,683	West
Cumberland	23	8	26,285	Southeast
Haywood	23	6	21,851	West
Orange	23	9	47,957	Triangle
Durham	21	10	36,435	Triangle
Buncombe	19	9	24,749	West
Moore	18	5	38,871	Triangle
Union	18	7	20,431	Charlotte
Jackson	15	4	28,096	West
Iredell	11	6	10,986	Charlotte
Watauga	10	6	25,971	West
Brunswick	9	7	22,909	Southeast
Gaston	8	6	20,512	Charlotte
Carteret	6	4	28,078	East
Rockingham	5	3	14,690	Piedmont Triad
Macon	4	4	30,803	West
Pitt	3	4	6,778	East
NC Total	989	377		
NC Average			33,384	

Note: The following counties either reported less than 3 jobs in this industry or data was withheld for non-disclosure reasons: Catawba, Alamance, Alexander, Ashe, Avery, Beaufort, Bertie, Cabarrus, Chatham, Chowan, Clay, Columbus, Craven, Currituck, Duplin, Halifax, Harnett, Hertford, Lee, Lincoln, Onslow, Pasquotank, Pender, Person, Richmond, Robeson, Rowan, Rutherford, Stanly, Transylvania, Warren, Wayne, Yadkin, Yancey

Table 14. North Carolina Counties Ranked by Industrial Design Services (NAICS 541420), 2008

County	Employment	Establishments	Avg. Wages	Region
Guilford	148	24	84,719	Piedmont Triad
Wake	41	15	55,959	Triangle
Mecklenburg	15	9	57,680	Charlotte
Burke	10	3	37,909	West
Davidson	6	4	59,198	Piedmont Triad
NC Total	356	95		
NC Average			65,692	

Note: The following counties either reported less than 6 jobs in this industry or data was withheld for non-disclosure reasons: Alamance, Alexander, Buncombe, Caldwell, Catawba, Clay, Cleveland, Cumberland, Durham, Forsyth, Franklin, Gaston, Haywood, Iredell, Jackson, Macon, Moore, Nash, New Hanover, Orange, Rowan, Surry, Union, Watauga, Wilkes, Wilson

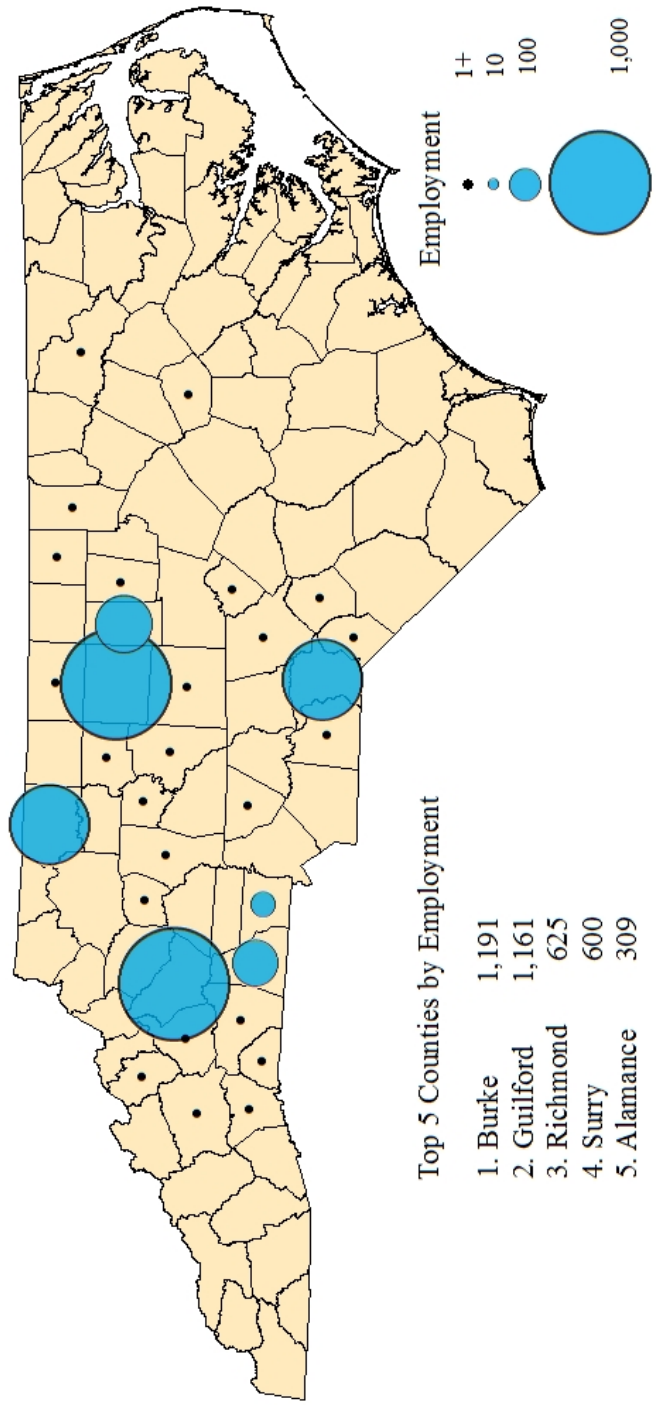
Table 15. North Carolina Counties Ranked by Re-upholstery and Furniture Repair (NAICS 811420), 2008

County	Employment	Establishments	Avg. Wages	Region
Guilford	116	22	27,072	Piedmont Triad
Mecklenburg	73	18	26,574	Charlotte
Randolph	61	16	26,805	Piedmont Triad
Catawba	48	9	28,129	Charlotte
Wake	38	9	20,639	Triangle
Buncombe	33	8	22,747	West
Davidson	21	7	23,284	Piedmont Triad
Durham	21	7	24,303	Triangle
Burke	20	5	25,990	West
Wilson	20	5	22,694	East
Union	13	4	26,128	Charlotte
Cumberland	12	3	17,858	Southeast
New Hanover	12	3	21,988	Southeast
Lincoln	10	3	20,456	Charlotte
Cleveland	9	3	21,807	Charlotte
Cabarrus	6	3	19,521	Charlotte
Carteret	6	3	12,473	East
NC Total	656	182		
NC Average			24,279	

Note: The following counties either reported less than 6 jobs in this industry or data was withheld for non-disclosure reasons: Alamance, Alexander, Avery, Beaufort, Caldwell, Cherokee, Craven, Currituck, Davie, Edgecombe, Forsyth, Gaston, Harnett, Henderson, Iredell, Johnston, Lee, Lenoir, Macon, Mitchell, Moore, Nash, Onslow, Orange, Pasquotank, Perquimans, Pitt, Polk, Rowan, Sampson, Scotland, Stanly, Surry, Transylvania, Vance, Watauga, Wayne

APPENDIX TWO: FURNITURE MAPS

Figure 1. Broad-woven Fabric Mills (NAICS 313210) Employment by County, 2008



Source: NC Employment Security Commission, 2009

Figure 2. Household and Institutional Furniture and Kitchen Cabinet Manufacturing (NAICS 3371)
Employment by County, 2008

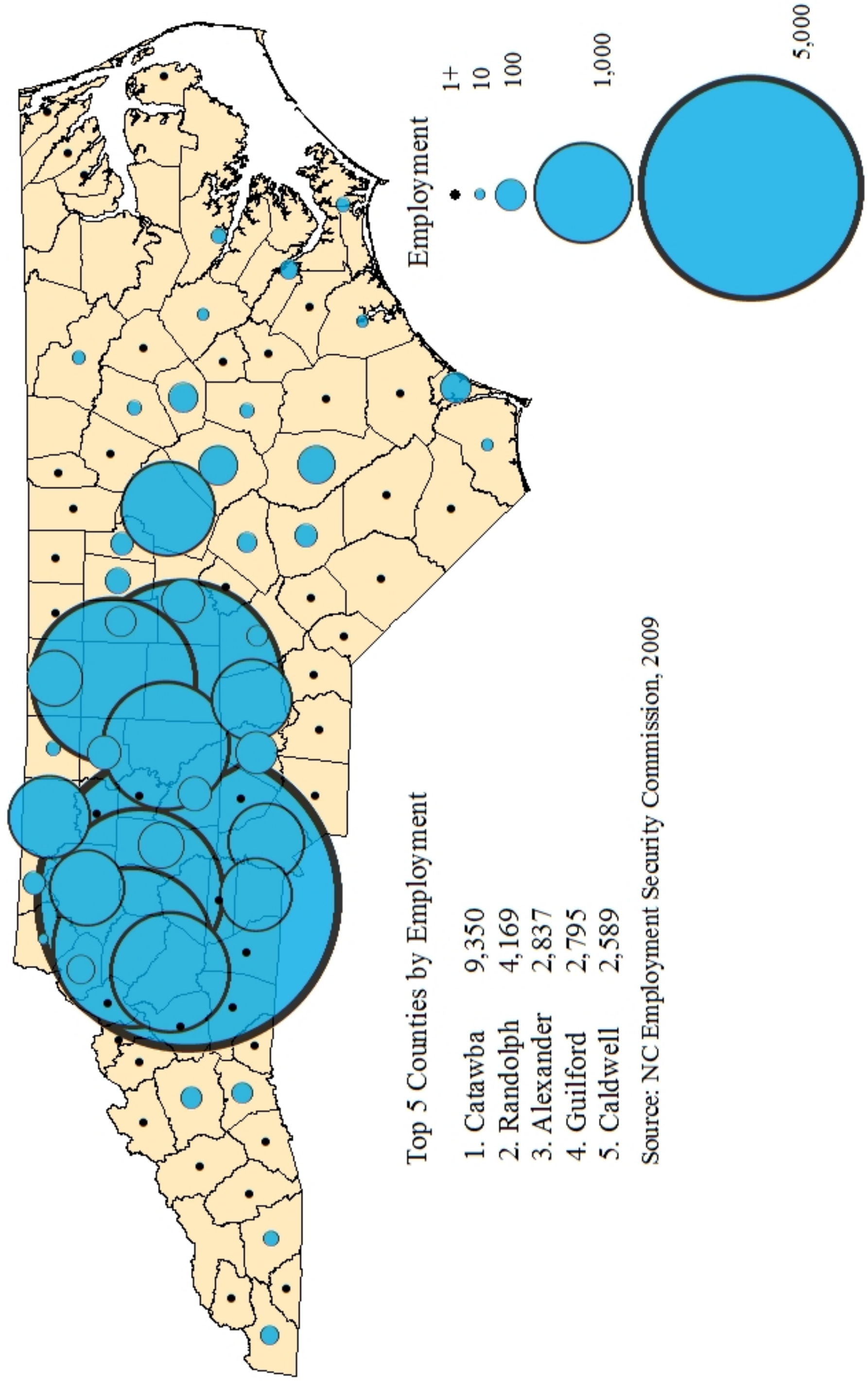
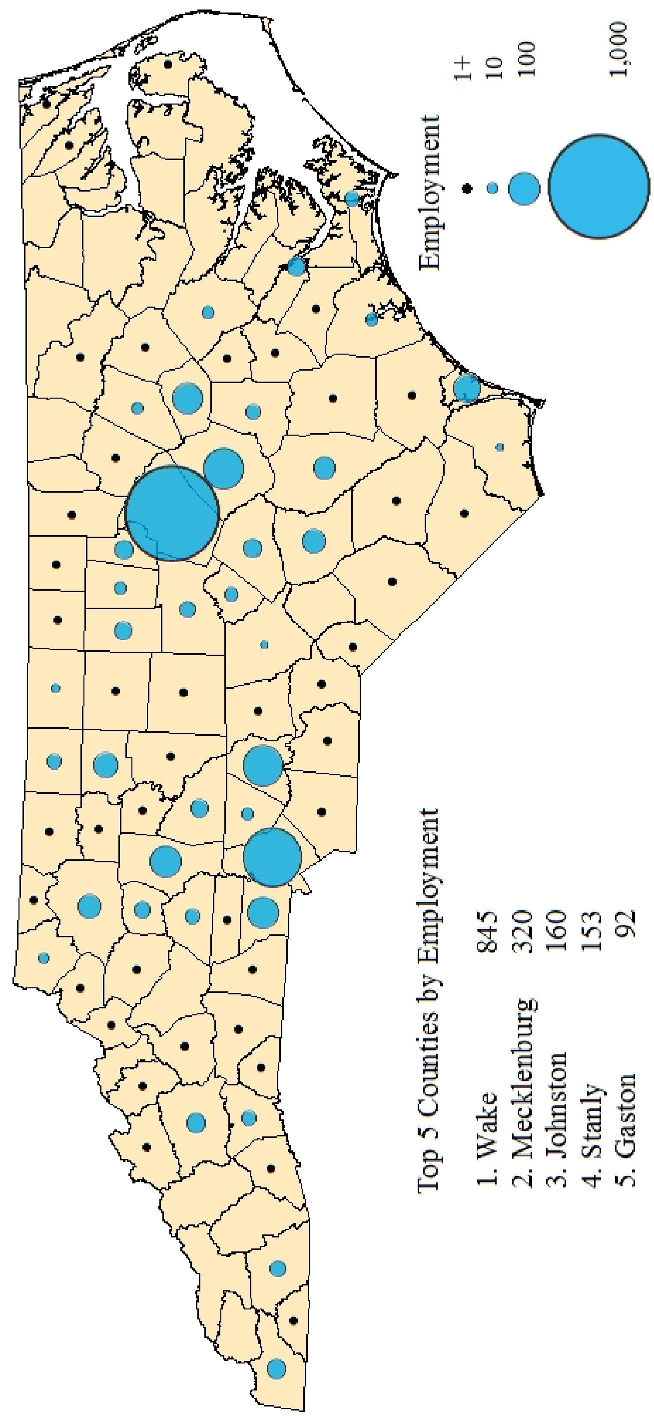


Figure 3. Kitchen Cabinet, Bathroom Vanity and Countertop Manufacturing (NAICS 337110) Employment by County, 2008



Top 5 Counties by Employment

1. Wake	845
2. Mecklenburg	320
3. Johnston	160
4. Stanly	153
5. Gaston	92

Source: NC Employment Security Commission, 2009

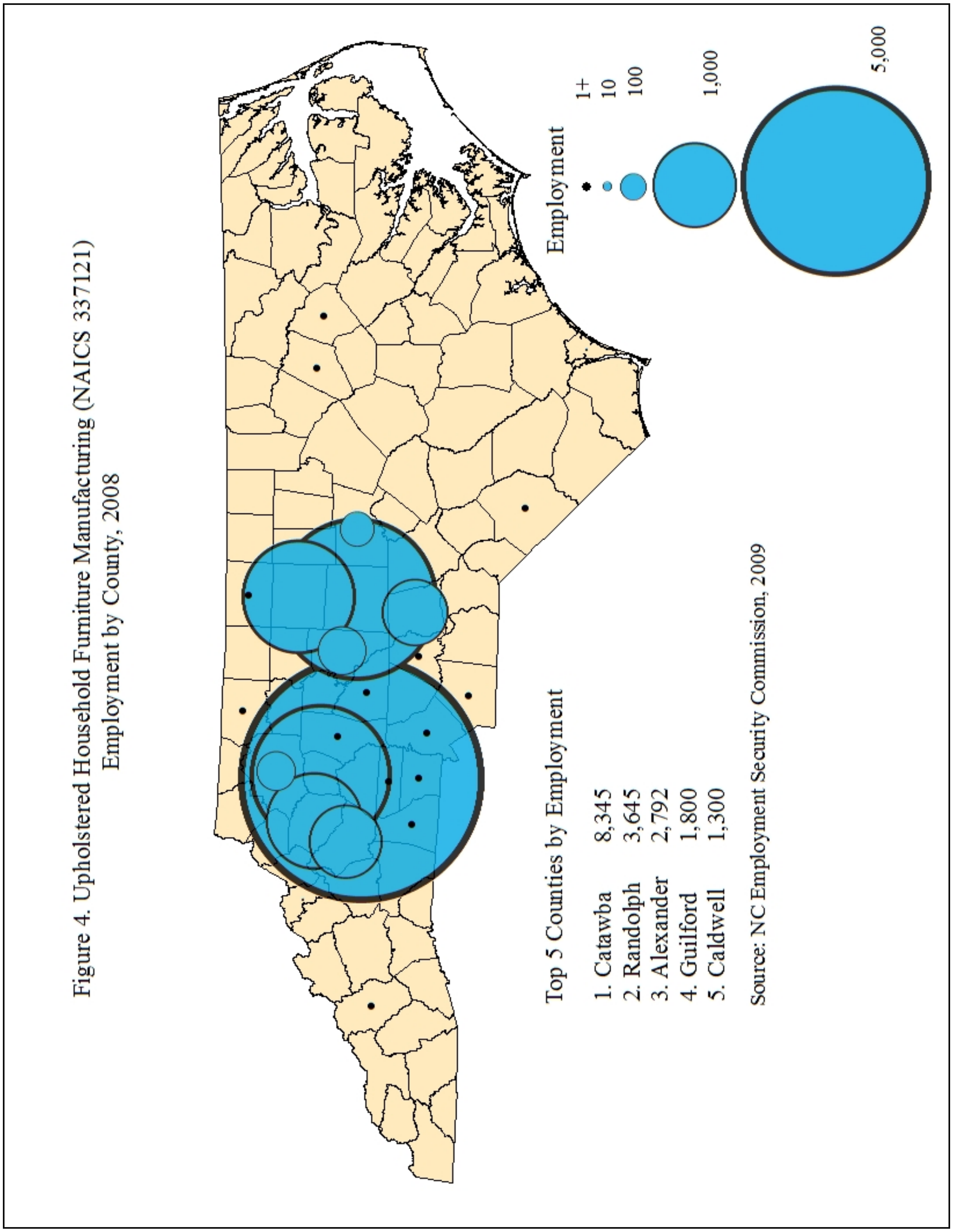


Figure 4. Upholstered Household Furniture Manufacturing (NAICS 337121)
Employment by County, 2008

Figure 5. Non-upholstered Wood Household Furniture Manufacturing (NAICS 337122) Employment by County, 2008

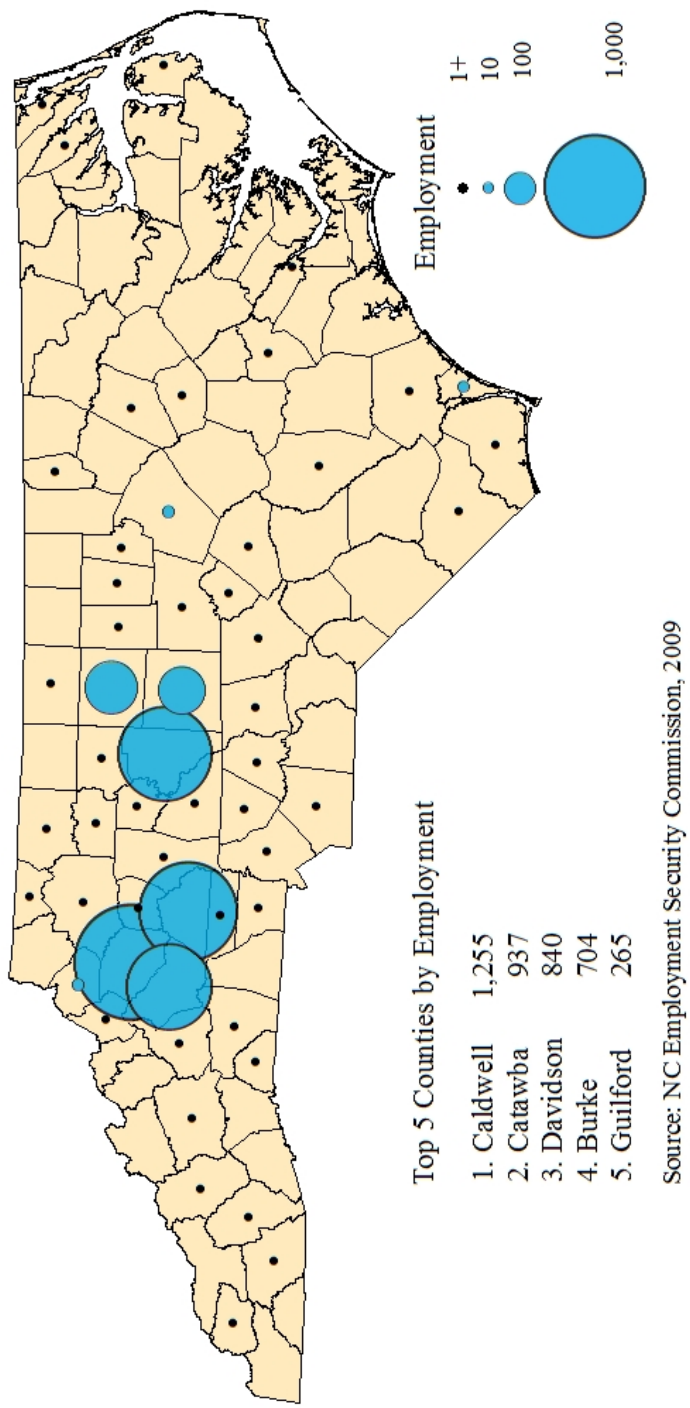


Figure 6. Institutional Furniture Manufacturing (NAICS 337127)
Employment by County, 2008

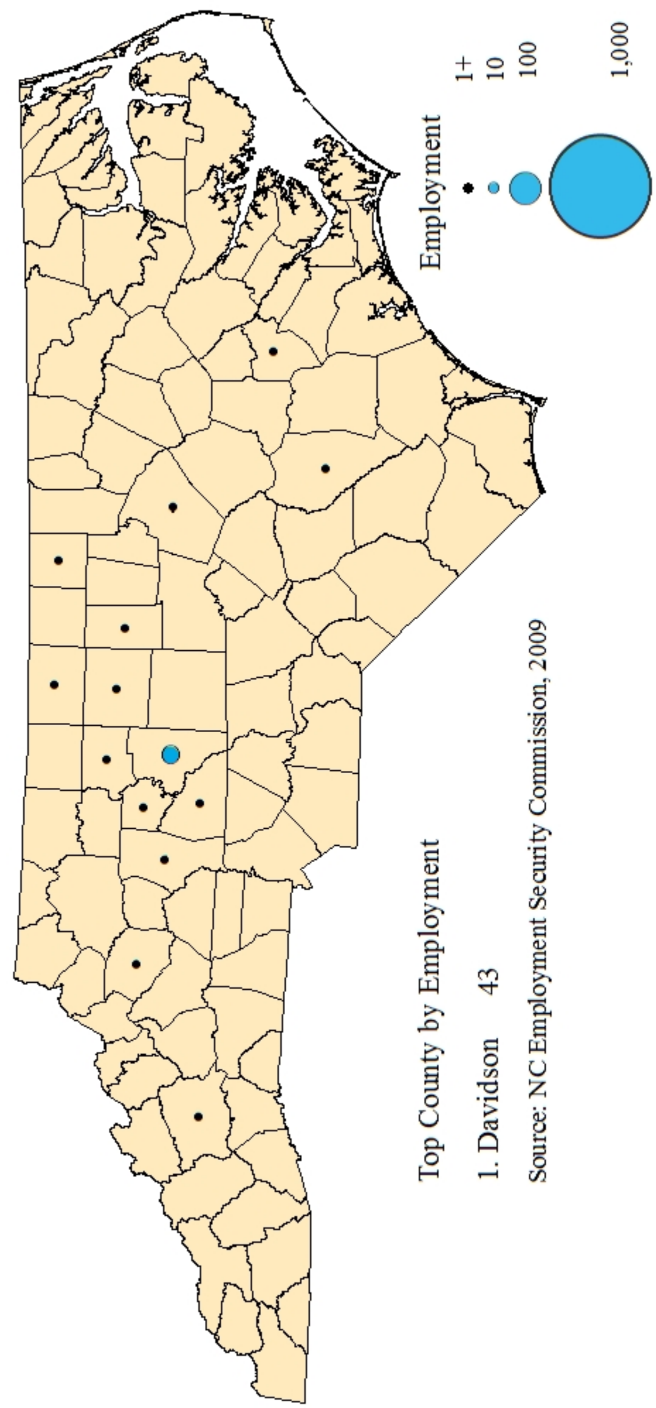
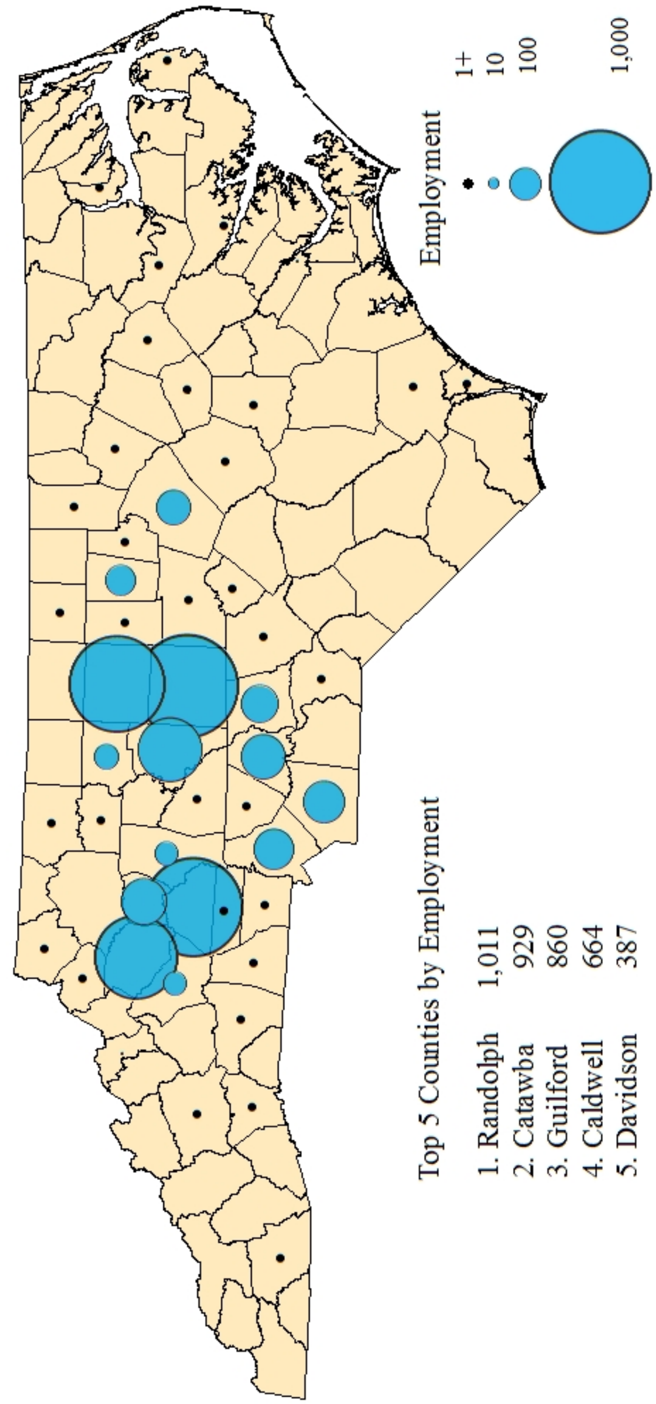
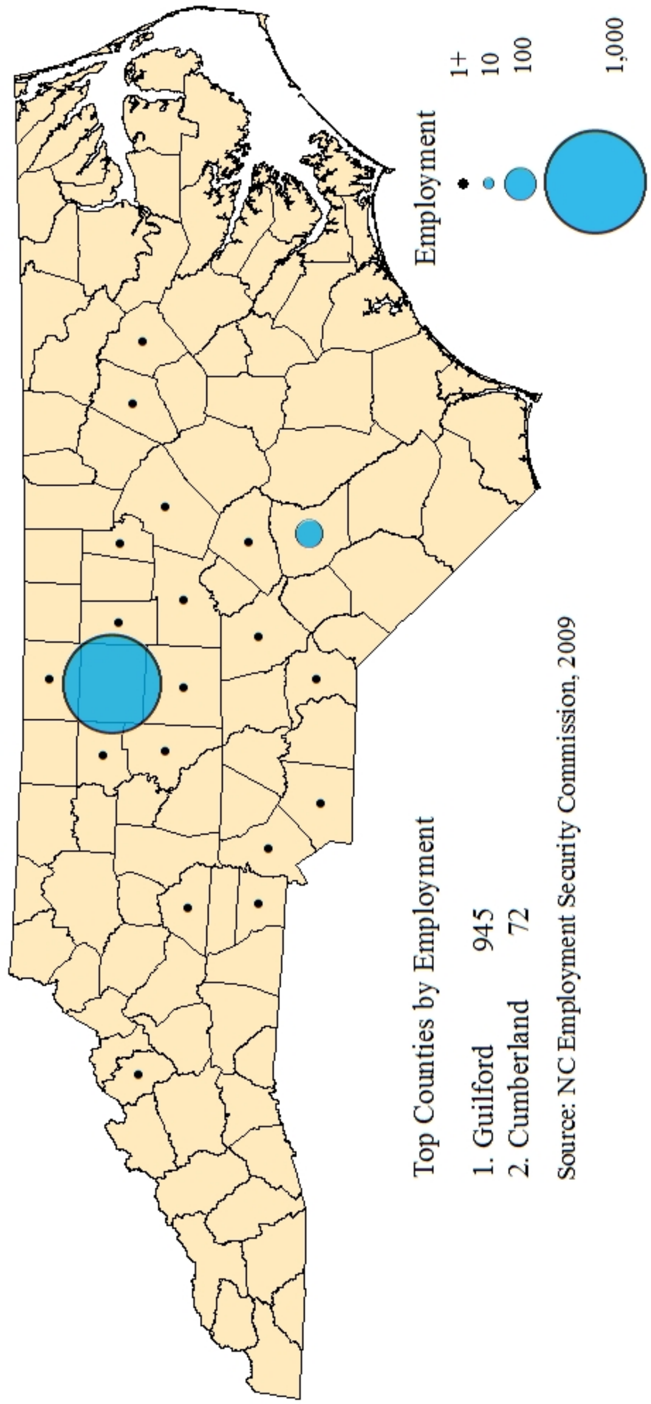


Figure 7. Office Furniture and Fixtures Manufacturing (NAICS 3372)
Employment by County, 2008



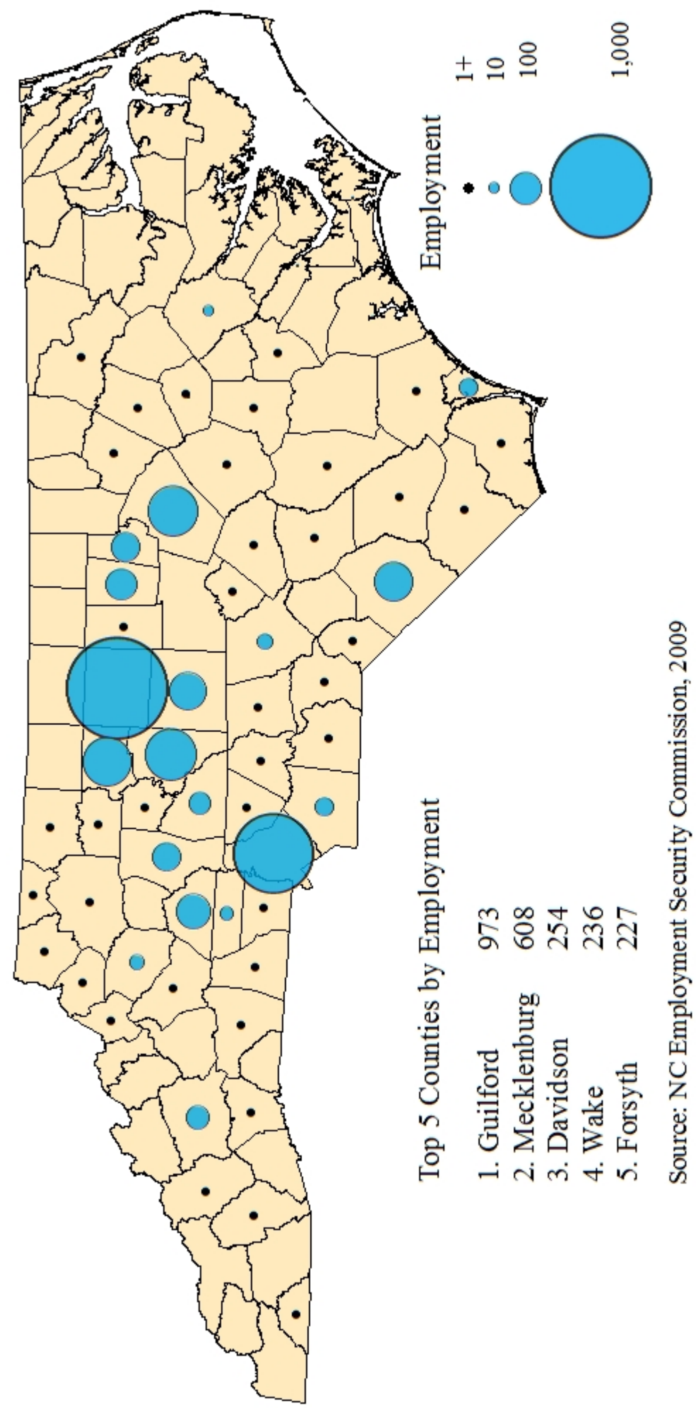
Source: NC Employment Security Commission, 2009

Figure 8. Other Furniture Related Product Manufacturing (NAICS 3379)
Employment by County, 2008



Source: NC Employment Security Commission, 2009

Figure 9. Furniture and Home Furnishings Merchant Wholesalers (NAICS 4232) Employment by County, 2008



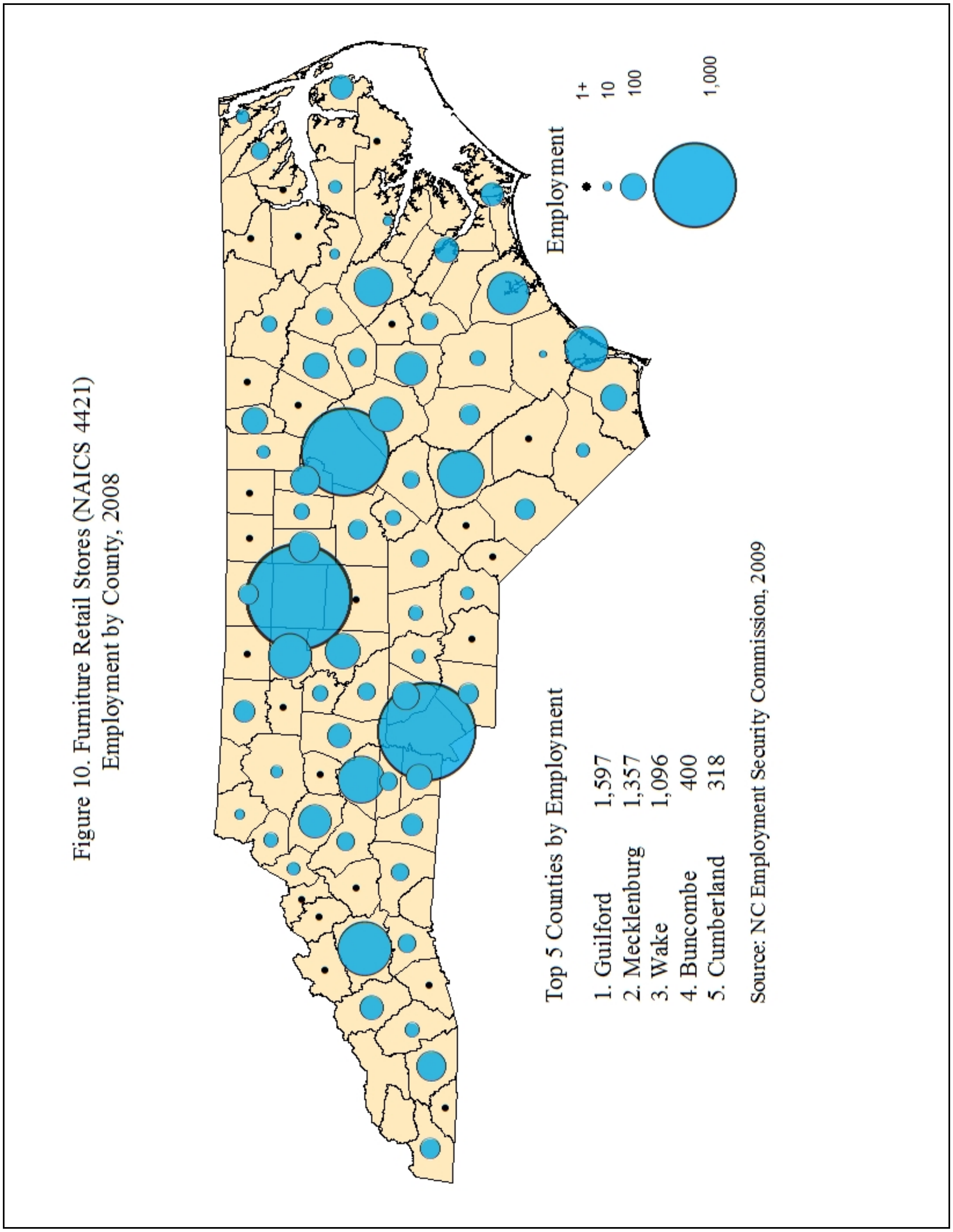


Figure 10. Furniture Retail Stores (NAICS 4421)
Employment by County, 2008

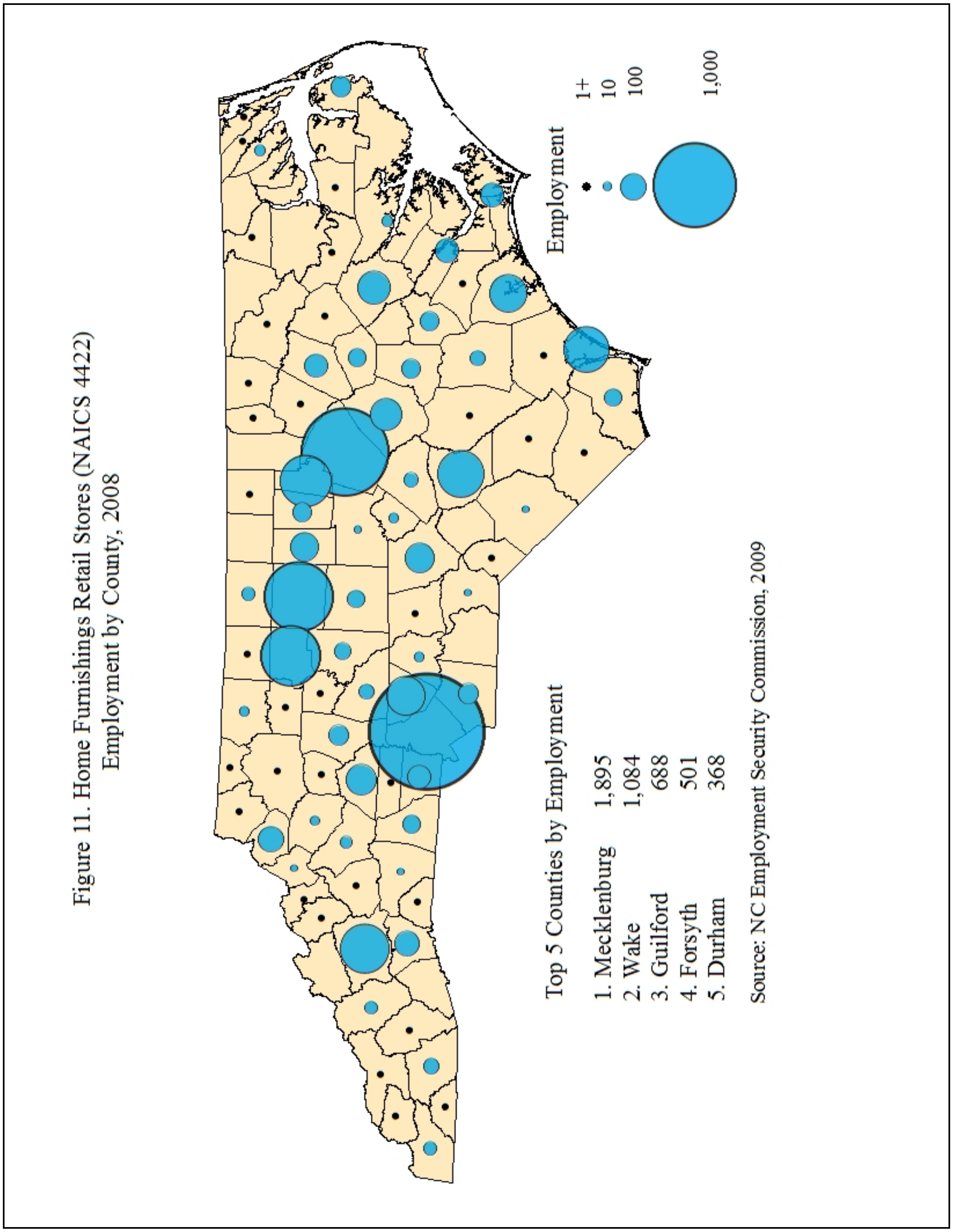
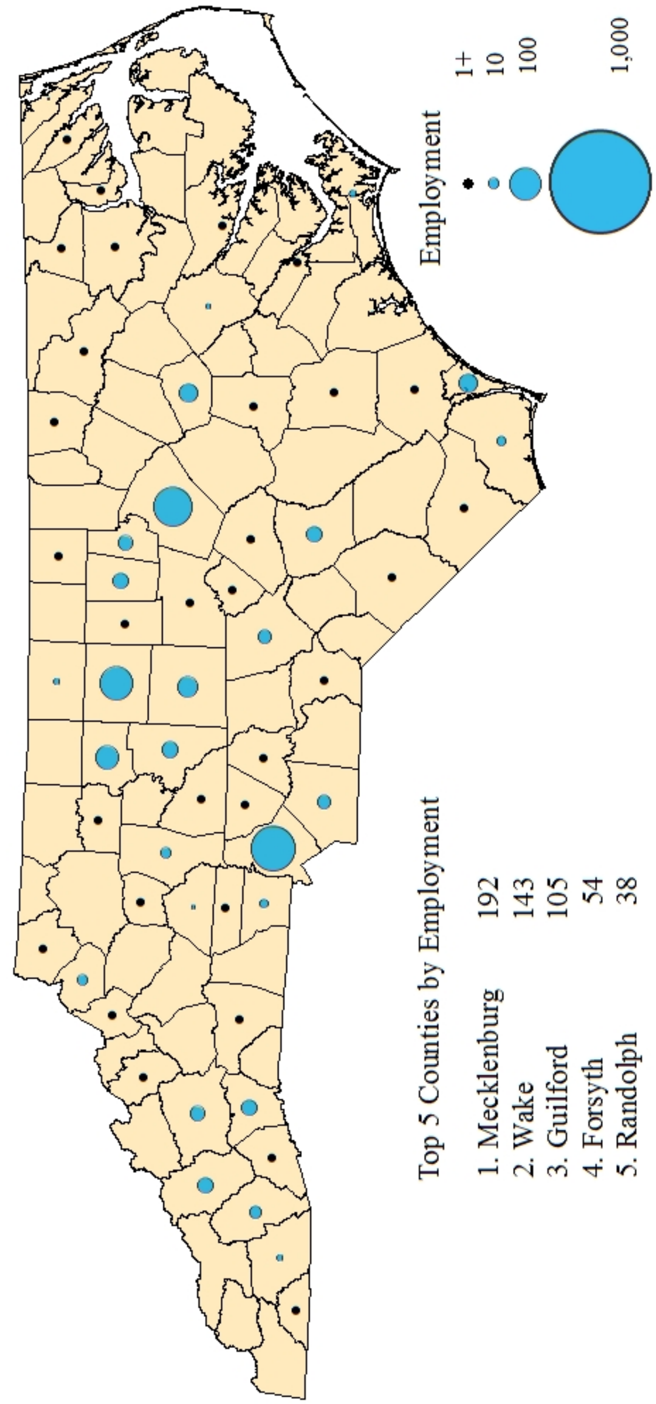


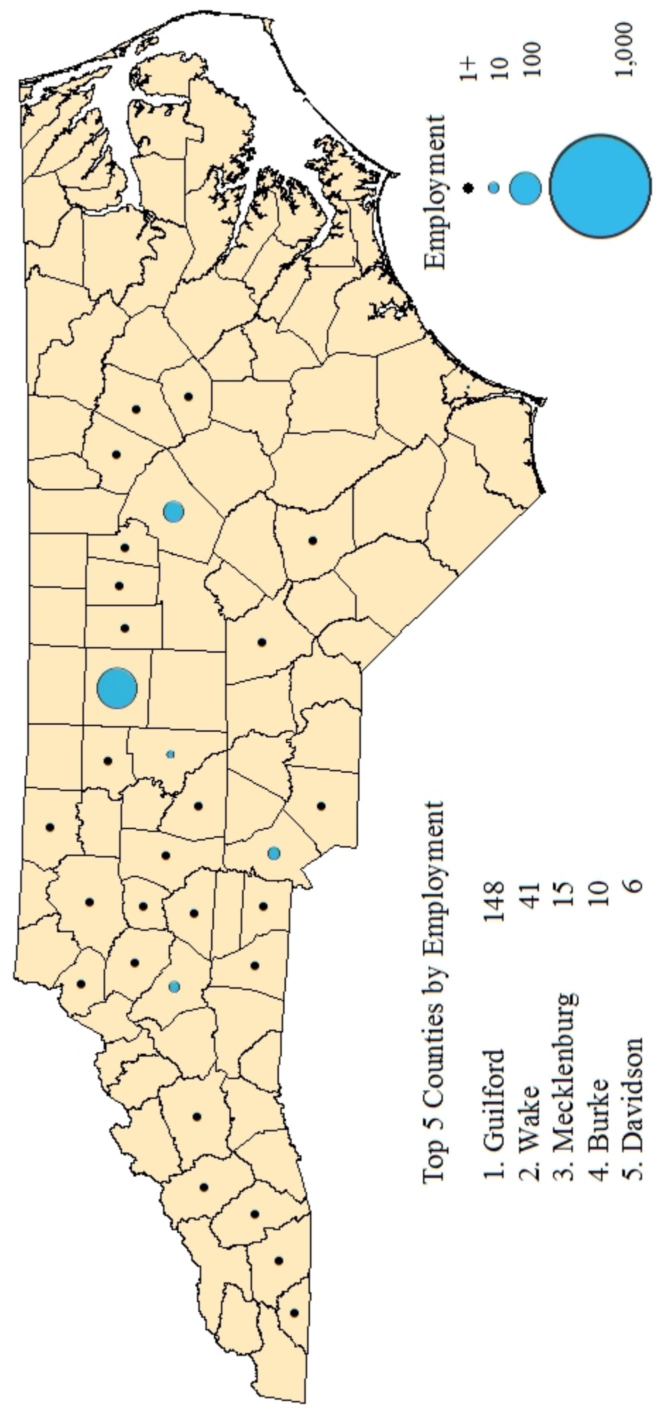
Figure 11. Home Furnishings Retail Stores (NAICS 4422)
Employment by County, 2008

Figure 12. Interior Design Services (NAICS 541410)
Employment by County, 2008



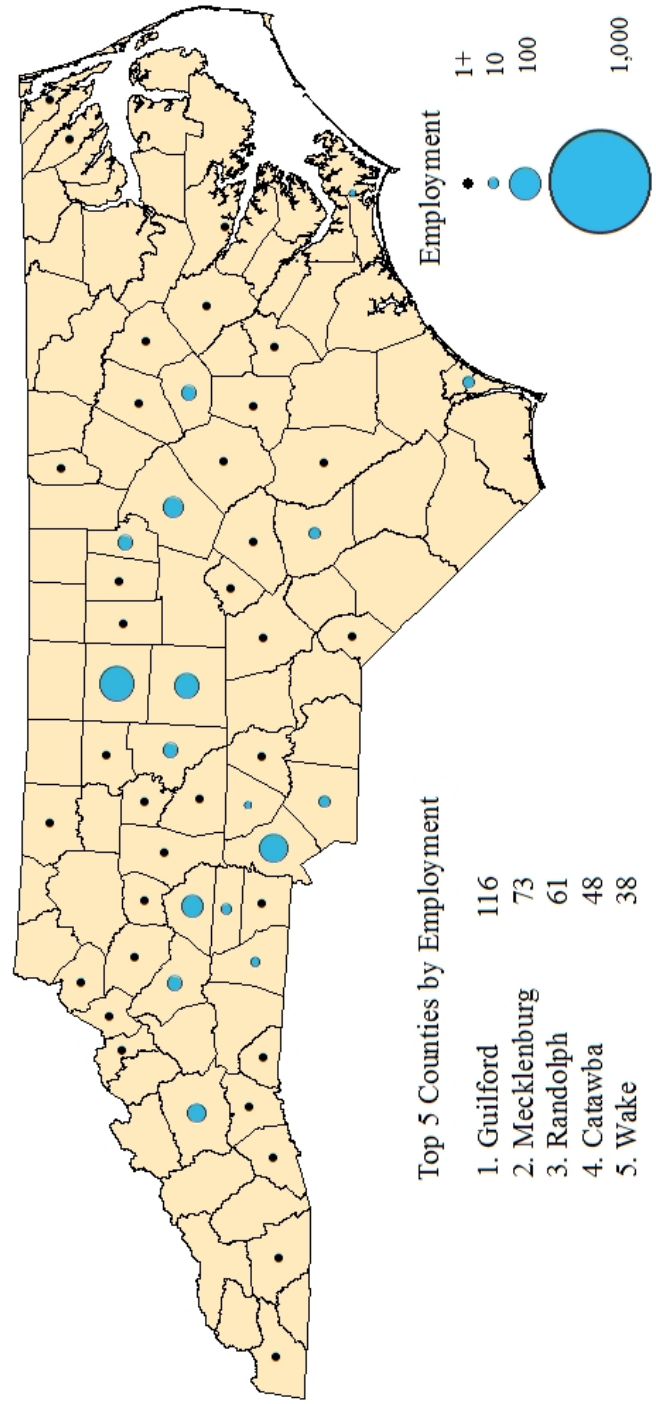
Source: NC Employment Security Commission, 2009

Figure 13. Industrial Design Services (NAICS 541420)
Employment by County, 2008



Source: NC Employment Security Commission, 2009

Figure 14. Other Services: Re-upholstery and Furniture Repair (NAICS 811420) Employment by County, 2008



Source: NC Employment Security Commission, 2009

APPENDIX THREE: PIEDMONT FURNITURE MEGA-REGION EMPLOYMENT AND EARNINGS DATA

Table 1. Furniture Manufacturing Employment by Industry in the Piedmont Mega-region, 2006-2007

2006 County	Upholstered 337121	Non-Uphol 337122	Office 337211	Showcases 337215	Mattress 337910
Alexander	3065	*	0	273	0
Burke	1246	1362	0	51	0
Caldwell	1451	2177	462	176	0
Catawba	8767	1441	*	635	0
Davidson	440	1390	*	467	130
Forsyth	0	*	0	*	0
Galax,VA	*	1033	*	*	*
Guilford	2399	290	431	310	614
Montgomery	817	*	0	177	*
Randolph	3444	281	311	820	*
Surry	*	*	0	*	0
Wilkes	234	*	0	0	0
TOTAL	**21863**	**7974**	**1204**	**2909**	**744**

2007 County	Upholstered 337121	Non-Uphol 337122	Office 337211	Showcases 337215	Mattress 337910
Alexander	3000	*	0	239	0
Burke	832	1213	*	48	0
Caldwell	1331	1365	474	199	0
Catawba	8667	1460	*	635	0
Davidson	428	976	*	466	*
Forsyth	0	*	0	*	0
Galax,VA	*	958	*	*	0
Guilford	1922	226	365	374	671
Montgomery	*	*	0	133	0
Randolph	3707	233	*	817	*
Surry	*	*	0	*	0
Wilkes	219	*	0	0	0
TOTAL	**20106**	**6431**	**839**	**2911**	**671**

* indicates data suppression

Table 2. Furniture Manufacturing Total Wages by Industry in the Piedmont Mega-region, 2006-2007 ($ millions)

2006 County	Upholstered 337121	Non-Uphol 337122	Office 337211	Showcases 337215	Mattress 337910
Alexander	94.29	*	0	6.415	0
Burke	38.738	45.431	0	1.195	0
Caldwell	42.586	55.96	13.283	4.74	0
Catawba	283.66	40.791	*	14.336	0
Davidson	11.913	37.553	*	12.683	3.53
Forsyth	0	*	0	*	0
Galax	*	26.48	*	*	0
Guilford	78.819	15.135	15.455	8.891	20.358
Montgomery	16.176	*	0	4.132	0
Randolph	87.011	5.881	9.24	19.746	*
Surry	*	*	0	*	0
Wilkes	7.018	*	0	0	0
TOTAL	**660.21**	**227.23**	**37.978**	**72.138**	**23.888**
2007 County	Upholstered 337121	Non-Uphol 337122	Office 337211	Showcases 337215	Mattress 337910
Alexander	94.396	*	0	6.037	0
Burke	25.643	42.647	0	1.295	0
Caldwell	38.766	38.428	13.841	5.485	0
Catawba	288.61	44.839	*	14.561	0
Davidson	12.327	29.637	*	11.365	*
Forsyth	0	*	0	*	0
Galax	*	23.06	*	*	0
Guilford	62.443	10.461	14.737	11.86	22.034
Montgomery	*	*	0	2.978	0
Randolph	102.94	5.248	*	20.653	*
Surry	*	*	0	*	0
Wilkes	6.869	*	0	0	0
TOTAL	**631.99**	**194.32**	**28.578**	**74.234**	**22.034**

* indicates data suppression

APPENDIX FOUR: FURNITURE INTERVIEWS

LIST OF INTERVIEWEES

Broadwoven Fabrics:

Cone Decorative	Debbye Lustig
Designers	Milo Wesley, Robert Allen fabrics
ITMA	Panel discussion
Valdese	Zack Taylor

Architectural/Cabinetry:

Guilford Builders	Mark Thompson

Upholstered furniture:

Bolier	Chris Plasman
Councill	Randy Black
Key City	Chris Reaves, Tom Comer, David Beard
Klaussner	Karen Shears, Human resource manager
Pearson	Richard Brown
Sherrill	Charles Coffey (VP sales, marketing)
Stickley	Sally McGrogan (Gen. manager, sales)
Thayer Coggin	Royal Wiggin

Wood furniture:

Century	Alex Shuford
Craftique	John Erwin
Hickory Chair	Jay Reardon, Laura Holland
Home Meridian	George Revington
Phillips Collection	Mark Phillips

Institutional/Office furniture:

Amcase	Mike Mulford
Legacy	Chris Coggin
Marquis Seating	Gary Lindenburg
Steelcase	Brian Quinn

Others:

Globe Express	Bill Smith (manager, global supply chain)
NC Commerce	Tom Crump (furniture division head)
AFHA	Andy Counts (President)
ASFD	Steve Hodges (President)